

Amateur Radio

Volume 83
Number 3
March 2015
Price: \$9.70 incl GST

www.wia.org.au



Play Field Day radio

Build:

- Solder fume exhaust unit
- The Wadetenna
- CW Operators Club

ISSN 0002-6859

03



The radio... *YAESU*

FT-991

HF/VHF/UHF
ALL MODE TRANSCEIVER



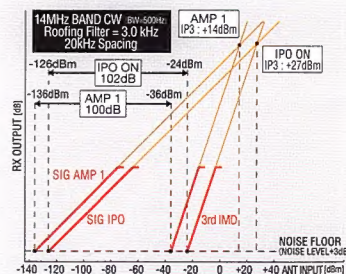
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The radio

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This month's cover

Our cover this month gives a spectacular view of part of the VK3KQ Summer VHF/UHF Field Day Contest station. March is time for the John Moyle Field Day Contest – details are in the previous issue of this magazine and are available on the WIA web site. The John Moyle covers all bands, so check the rules, get in there and participate, be it from a field location or from home. Photo courtesy of Ralph Parkhurst VK3LL.

Contributions to Amateur Radio



Amateur Radio is a forum for
WIA members' amateur radio
experiments, experiences,
opinions and news. Manuscripts
with drawings and/or photos are
welcome and will be considered
for publication. Articles attached to
email are especially welcome. The

WIA cannot be responsible for loss or damage to any material.
Information on house style is available from the Editor.

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Back Issues

Back issues are available directly from the WIA National Office
(until stocks are exhausted), at \$8.00 each (including postage
within Australia) to members.

Photostat copies

If back issues are unavailable, photocopies of articles are
available to members at \$2.50 each (plus an additional \$2 for
each additional issue in which the article appears).

Disclaimer

The opinions expressed in this publication do not necessarily
reflect the official view of the WIA and the WIA cannot be held
responsible for incorrect information published.

Amateur Radio Service

A radiocommunication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

Wireless Institute of Australia

ABN 56 004 920 745

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National Radio Society, founded 1910.

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Member of the International Amateur Radio Union

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Editorial

Peter Freeman VK3PF

A trip south

Most readers are by now aware that I am a keen participant in SOTA. I have been participating since late February 2012, almost a month after the commencement of the programme in VK3. It was not until late May 2012 that I really started chasing and activating – prior to that time, I had mainly chased activations that were also in National Parks.

January 2013 was another hot, dry summer in Victoria – many days were too hot to safely head for the hills to activate any summits. I used some of my leave time to muse over electronic maps of Tasmania, thinking about areas I had visited 30 years earlier on bushwalking trips. Thus I started the mapping required to get VK7 registered in the SOTA programme. I continued on with the task over the next few months, ultimately mapping several of the regions in Tasmania and forwarding all the information to the now VK7 Association Manager Justin VK7TW.

Word finally arrived in late September that the VK7 Association would commence on 1 October 2014. Given the short notice and falling in School holidays, there were no cheap airfares available, plus it was a busy time for me at work and with the preparation of the November issue of this magazine. I did manage to catch the three activations of Tasmanian summits on the first day.

In late November, I spotted an advertisement for cheap fares on the Spirit of Tasmania, so I booked myself a two-week trip for late January and early February. The focus of the trip was to be twofold: Activate SOTA summits in National Parks as a first priority,

with activation of a small number of higher value summits where I had already chased a previous activation.

How was the trip? Excellent! Unfortunately, the weather in the middle of the trip was poor as the result of an East Coast low giving strong winds and plenty of rain. Despite the poor weather, there was only one day when I did not go out to operate portable. Overall, I activated 10 National Parks, with eight of them from SOTA summits. I activated a total of 13 SOTA summits, with five of the summits being first activations. My SOTA Activator score received a healthy boost and I was able to also chase other activations. If my counting is correct, I qualified all 10 National Parks for the VKFF award scheme, with four Parks activated with enough contacts to qualify the Parks for the WWFF award scheme.

I did not have sufficient time to activate all the Parks and I still need more contacts to qualify the other National Parks for the WWFF awards, so I guess that means another trip south in the future. And there are, of course, plenty of SOTA summits still to activate!

I big thank you to the amateurs in Tasmania who welcomed me, with special thanks to Joe, Rex and Justin.

I am now back at work and finalising details for the teaching tasks that will occupy my time for the coming months. The mental refreshment after the trip is already waning. Such is life.

Until next month,
Cheers,

Peter VK3PF



WIA comment

Phil Wait VK2ASD

Improving Connections

In early 2004, under the stewardship of Michael Owen VK3KI (SK), the WIA changed to a single national organisation, away from the model of State and Territory Divisions subscribing to a not-for-profit federal company, each Division having a Federal Councillor, with the seven-member Federal Council conducting WIA business that was in the national interest – producing *AR* magazine, liaising with the licensing authority, international representation etc.

The Divisions either dissolved (transferring their assets to the new national organisation for the benefit of the Australian radio amateur community) or agreed to continue as large radio clubs (e.g. AR NSW, AR Victoria).

WIA National is a not-for-profit company limited by guarantee, with seven Directors who are elected by the membership Australia-wide and responsible for ensuring that the company operates in accordance with the Corporations Act and within the Objects of its Constitution.

The WIA Board now meets monthly by teleconference, and one or two times a year face-to-face, responding to issues quickly as they arise; very necessary in today's rapidly changing technological and regulatory environment. This is a much simpler and more efficient structure than the old Divisional system, which was plagued by a variety of operational issues, not to mention the difficulty in making timely decisions. In fact, I think many of the achievements of the past 10 years would have been very difficult, if not impossible, under the old Divisional system.

However, there is a rub – the Divisional system had one good thing going for it: for many decades, the Divisions held regular meetings and were therefore close to the grass-roots membership, and perhaps better understood the particular needs and concerns of their State or region. This held up pretty well until the amateur radio club system expanded rapidly over the 1970s and 1980s. In response to this development, some Divisions organised regular club conferences to discuss and thrash out issues facing radio amateurs in their regions. Over the 1990s, the devolution of amateur exams, the rapid and frequent developments in radiocommunications licensing and regulations, along with industry expansion, strained this organisational model; the formation of WIA National can be seen as a response to these considerable pressures.

Currently, the WIA has three Directors from New South Wales, two Directors from Victoria, and one each from Queensland and South Australia. However, no Directors come from Tasmania, Western Australia or the Northern Territory (although our previous Director, Bob Bristow VK6POP, has agreed to act as an emissary for WA).

Michael Owen VK3KI (SK) was very aware of these issues when writing the new National WIA's Constitution, and proposed that State Advisory Committees should advise the Board on the various issues affecting members in each State. However, in practice, that did not develop to any great extent.

More recently, the WIA formed

a number of specialist functional committees to carry on much of the day-to-day work and to advise the Board on matters in their specialist areas. This has been quite effective, and some advisory committees have been very active over the last year. For instance, the Spectrum Strategy Committee has been working on the 2.3 GHz and 3.5 GHz spectrum re-farming proposals, the Commonwealth Government's Spectrum Review, the new Repeater and Beacon policy, the amateur band plans review, and the possibility of a new amateur frequency allocation at 5 MHz.

That said, I believe we can do more to improve the connections between the WIA, individual members and affiliated clubs.

Last year, the Board introduced a couple of initiatives which should also help: a "Hot Issues" section on the WIA website now tracks the top-most important issues the WIA is working on; a public comment and review process better informs members about policy reviews that may affect them and invites comments and suggestions; and a monthly newsletter is now being sent to all affiliated clubs summarising the discussion and decisions from the most recent WIA Board meeting.

But I still think we need to do more.

In the November 2014 President's comment, Vice-President Chris Platt raised the possibility of reinvigorating the WIA Advisory Committees, either

Continued on page 5

Rotary celebrates its 110th birthday

The service organisation Rotary International is celebrating its founding 110 years ago with a special event callsign VI 110 ROTARY that will be heard from Australia for three months. Rotary's signature initiative has been to rid the world of Polio. That aim has almost been reached thanks to Rotary being joined by governments, the World Health Organisation and prominent community people such as Bill Gates.

Rotarians worldwide will use special events to publicise the Polio initiative to help speed the eradication program. It will also mark the first Rotary Club meeting that saw a group of local professionals meet for the first time in Chicago Illinois in February 1905.

Rotarians of Amateur Radio or ROAR will launch the special callsign at the Wyong Field Day on the New South Wales Central Coast on Sunday the 22nd of February, and using hopefully a brand new software defined radio. President for Australia, New Zealand and Oceania, Phil Byrne VK2MCB says that VI 110 ROTARY will then be on 7118, 14295.2 and 21295 kHz from

various locations around Australia.

The international fellowship of ROAR and Amateur Radio is long standing. Similar events may also be planned in other countries.

Temporary hitch with licence renewal notices

A number of amateurs discovered recently that their licence renewal notice from the ACMA had not arrived, as it had in previous years. Some clubs noticed the same thing with club station and repeater licences. It seems that licence renewals that fell due in December 2014, and perhaps early January 2015, may be affected. The WIA has learned from the ACMA that there was a 'hiccup' in their system for a short period over the end of last year and licence renewals were not issued, but that the problem has been corrected and it's back to business as usual, now.

However, if, like many amateurs, you rely on getting your renewal notice in the mail, and you're concerned you may have missed renewing your licence, take a look at your licence certificate on the wall of your shack. Or, is it in a drawer, somewhere? Towards the top right hand corner you will see the 'date of expiry'. This

tells you when you need to renew. If the expiry date has passed, you have 60 calendar days in which to renew, otherwise your callsign becomes available for re-issue! If you haven't reached the expiry date, you can renew early - but no more than three months ahead of time.

Can't find your licence certificate? You can search the Register of Radiocommunications Licences on the ACMA website at this link. http://web.acma.gov.au/pls/radcom/register_search.main_page You can search for your own callsign on the Register and look up the date of expiry. While you're there, write down your Client Number. You will need it. In the absence of a renewal notice, you can pay by calling the ACMA on 1300 850 115. You will be asked for your Client Number.

While I'm at it, let me lay to rest a myth about renewal notices - the legislation does not require the ACMA to issue renewal notices; they do so as a courtesy to clients. Aren't they nice people? Under the legislation, as a licensee, it is your responsibility to renew your licence within time.

A bit rough, you think? Take it up with your local Federal Member of Parliament.



Press Release

Wireless Institute of Australia Merit Awards

The Board of the WIA at its discretion makes awards to members for their contribution to Amateur Radio. These awards are usually presented at the WIA's Annual Conference and AGM. The Board is now calling for nominations.

The nomination form is available for download on the WIA website. When completing the survey, you

are not required to suggest which award should be made. The Board will assess each nomination, and decide which awards, if any, it will make.

Clearly it's best to include as much information as you can so as to inform the Board, and please do keep it in some sort of chronological order. Also include information about any other

awards they may have received. It's important to recognise the work done within the hobby, so please do give some thought to nominating someone you know of.

Nominations close on 31st March, and awards will be announced and where possible presented at the WIA's 2015 AGM and Conference on Canberra on May 8-10.



on a State or regional basis, where representatives from local radio clubs could meet, discuss, and coordinate activities relevant to their geographical area. This might include repeater coverage, maintenance and support, coordination of ham fests, club projects (or kits), Foundation licence and upgrade courses and promotional events such as field days, maker fairs, etc., and help to better connect the WIA to its members.

Chris asked for feedback on how the Advisory Committees could work. Unfortunately, the response was underwhelming.

On the other hand, when we have asked for feedback on other issues – contesting, the digital edition of *AR* magazine, issues with the Licence Conditions Determination, for example – we received gratifying levels of response. But then, I'm aware that these issues are heartfelt among many amateurs, a proportion of whom never hesitate to speak up. Is it that too few members care about Advisory Committees?

So, let's ask again: How, without revising the past structures that outgrew their usefulness, can the WIA improve the "connections" between individual members,

affiliated clubs, and the WIA Board? As President, this is one of the key areas I want to explore over the coming year. Give me your views through one of these ways: email: president@wia.org.au Fax: (03) 9729 7325 or snail mail to PO Box 2042, Bayswater Vic 3153.

Phil Wait VK2ASD
President

P.S. The next WIA AGM and conference weekend to be held in Canberra over the weekend of the 9-10 May. Check out the WIA website and inside this magazine for more details.



THE WIRELESS INSTITUTE OF AUSTRALIA

ABN 56 004 920 745

Notice of Annual General Meeting

Business

1. To receive and consider the Annual Financial Statements, Directors Report and Independent Auditor's Review Report for the year ended 31 December 2014.
2. To announce the results of the election of Directors.
3. To transact any other business that may be brought before the meeting in accordance with the Institute's Constitution.

Notice is hereby given that the Annual General Meeting of The Wireless Institute of Australia will be held at the Poseidon Room at the Canberra City Hellenic Club, Canberra on **Saturday 9th May 2015 at 9.00 am**

By Order of the Board

David Williams
Secretary

16 February 2015

Note A Member is entitled to appoint one proxy only, who must be another Member or a representative of another Member, and that proxy is entitled to vote on a show of hands or on a poll. A form of Proxy accompanies this Notice of Annual General Meeting.

While non members of The Wireless Institute of Australia are welcome to attend the Annual General Meeting and the Open Forum, only members are entitled to vote, and will be identified by a coloured card. Members should register and receive a coloured card at the registration table which will be open outside the meeting room from 8.00 a.m.

Section 250S of the Corporations Act provides that the chair of an AGM must allow a reasonable opportunity for the members as a whole at the meeting to ask questions about or make comments on the management of the company.

Open Forum Immediately following the formal Annual General Meeting an Open Forum will be conducted. An additional detailed report will be submitted on behalf of the Board, and the Institute's coordinators and those responsible for particular aspects of the Institute's activities will be asked to submit a written report which will be available for those attending the Forum. Any major issues affecting each area of responsibility will be identified and the author of each report who is present will be given the opportunity to briefly comment.

Members are encouraged to discuss any matter arising from any of the reports, and to raise any other matter affecting amateur radio or the Institute.

This format will avoid any restriction arising from the requirement to give notice of business to be formally raised at the AGM.

A simple solder fume exhaust unit

Peter Stewart VK5PET

If you are like me and a relative novice when it comes to soldering, as well as have little to spend on gadgets, then this little project concocted on Good Friday will appeal to you. It is a solder fume extractor, not unlike the expensive retail ones, but can be constructed for just a few dollars and a little of your time.

The basis of the project is two 'gutted' computer power supplies, using only the cases and the two fans. A 4x4 battery box, one on/off switch and a mono isolating phono chassis socket make up the remaining parts. The latter was retrieved from an old record player and it fitted the plug on a 12 volt power pack that was in the junk box.

I began by removing the lids from both cases and storing the screws for later. Two fans came out of the junk box and I tested both, including marking the 'in' side of each. Next, I cut one of the cases approximately one third of the way



Photo 1: Top view – labels in place.

from the fan mounts and trimmed it to fit inside the other. The screw holes on the base are used to fix the

two together. The idea is to leave enough space to fit the battery box in the 'back' of the case, and to line up the fan mounts.

The fans were fixed in and I needed to put the inner fan on the reverse side of the inner case to have them both sucking air in the same direction. To seal the case, I used a piece of the cut case to cover the power inlet hole, fixing it in place with screws from this plug. The power switch fits in its original position. The phono jack was placed in a piece of the rear panel, away from the exhaust 'outlet'.

Then it was only a matter of wiring the fans to the switch, battery box and jack. With all parts in place, the cover was put on and screwed on.

It works well with either the batteries or power pack, just make sure it is facing away from any others soldering around you! The

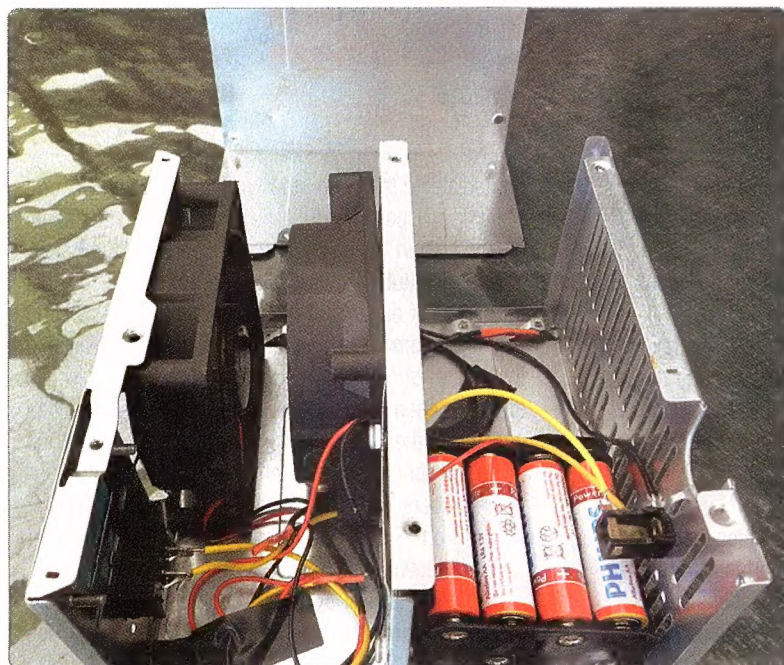


Photo 2: Interior view showing layout.

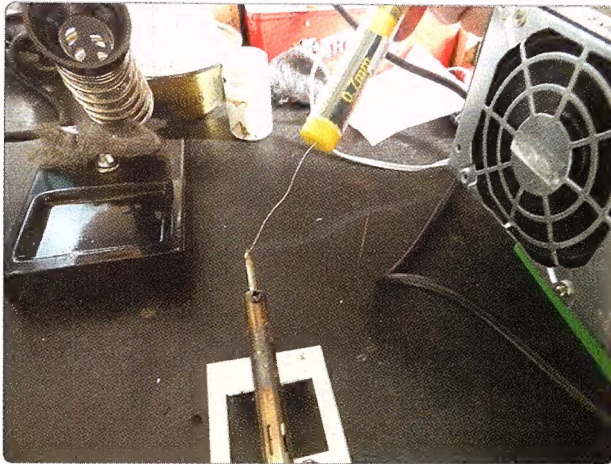


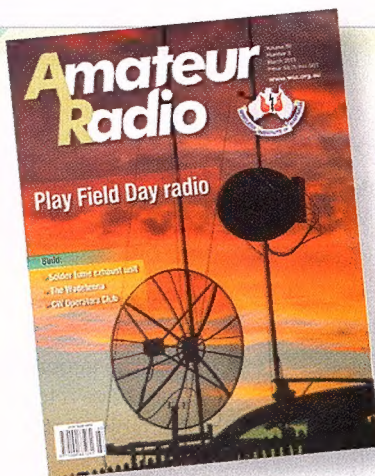
Photo 3: Demonstration of unit at work.

commercial ones come with carbon filters, and you may care to cut some scourer pad, placed between the two fans, to do a similar job. To increase air flow, you may care to use processor fans, they are generally faster, but a little harder to come by in the same size.

Jim VK5JST suggested a small transformer and rectifier in place of the battery/external power setup, to make use of the original power socket, but these were lacking from my junk box!

This model works well and justifies the time spent to make soldering more comfortable.

Contribute



Articles and high quality photographs for *Amateur Radio* and *Callbook*.

See <http://www.wia.org.au/members/armag/contributing/>

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Note: PCB not included

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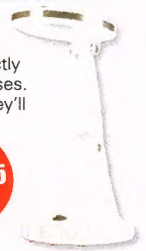


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The Wadetenna: An eight band vertical antenna for HF pedestrian mobile

Peter Parker VK3YE

While many amateurs have small transceivers suitable for HF pedestrian mobile operating, only a small proportion have used them this way. The lack of a suitable antenna is probably the main obstacle.

Magnetic loops perform well but can be bulky and fragile to transport. Care also needs to be taken in their construction to keep resistive losses down. Another shortcoming is they need a hand to hold; difficult if operating pedestrian mobile in a contest where you also need to log contacts.

Presented is a simpler alternative for those near a saltwater beach. It's a full sized vertical antenna plus counterpoise. The five metre length works out to be a quarter wavelength on 14 MHz and a half wavelength on 28 MHz. It can be supported on cheaply available telescoping poles that collapse down to 65 cm. The basic antenna covers 10 – 50 MHz with a simple L-match coupler. An optional loading coil, described later, adds effective 7 MHz capability.

This antenna started as a trailing counterpoise vertical. Some good contacts were made. However there was a risk of others tripping over the counterpoise or it getting stuck on a rock. Also tuning was finicky. This was because counterpoise wire movement and varying ground conductivity meant the SWR varied as you walked along. There were parts of the beach where you couldn't get a good match at all.

Instead of a trailing counterpoise along the ground, the Wadetenna uses a shorter counterpoise wire clipped to the user's ankle. This permits freer movement and reduces the need to readjust the

antenna coupler, especially if you remain in ankle deep water. Hence its name.

Antenna and mount

The antenna comprises five to 5.5 metres of the lightest available stranded insulated wire mounted on a 5.4 metre long telescopic pole, cheaply available via eBay. These poles have very thin and flexible sections so tolerate some bending.



Figure 1: Wearing the Wadetenna.



Photo 2: The antenna mount.



Photo 1: The Wadetenna in use.

Unlike larger poles they normally do not have a top loop so I used a 2 x 4 cm piece of thin flexible plastic to mount the wire. This was done by making two holes for the pole and a third for the antenna wire. Tie a knot in the end of the wire to keep it firm. Optionally use a Velcro strap to tie the antenna wire against the pole approximately half way down.

The base of the telescopic pole snugly fits into a piece of PVC tubing. This is bolted to a large kitchen chopping board. You could either fit waist straps to the

chopping board or place it in a backpack. Whatever mounting used should be firm enough to keep the extended pole approximately vertical.

Coupler and ankle clip

The antenna is brought to resonance with an L-match antenna coupler. There is nothing special about it and any small QRP antenna coupler would work. If building one especially for this project make it as small and rugged as possible.

My coupler used a switched T50-2 toroid on the back of a six position rotary switch which in turn is mounted on an L-shaped aluminium bracket. The toroid has 20 turns with a tap every four turns. A plastic dielectric variable capacitor with a 200 or 300 pF maximum is the only other component. The transceiver connection is a BNC female to

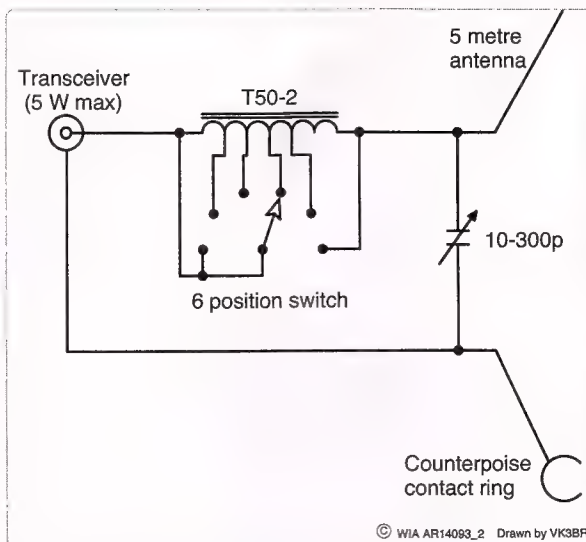


Figure 2: Schematic diagram of L-match antenna coupler for 10-50MHz.

which a male-male adaptor allows connection to an FT-817's BNC female antenna socket.

The other connections to the L-match are a binding post, for the antenna wire, and a one metre lead (not critical) for the counterpoise.

This goes to a circle of aluminium salvaged from a set of egg rings. A thick rubber band that is not too tight fastens this to your ankle.

Testing

Once built visit a saltwater beach, erect the antenna, clip on the ankle ring and test the antenna. This is done by adjusting the rotary switch and variable capacitor for maximum noise on receive. Then tweak these for lowest SWR on transmit. Walk into ankle deep water, observe any changes in noise level and readjust on transmit if necessary. Repeat for all

bands between 10 and 50 MHz.

Adding 7 MHz

Once satisfied with the Wadetenna on 10 – 50 MHz you might want to consider adding 7 MHz. Do this by cutting the radiating wire in half and

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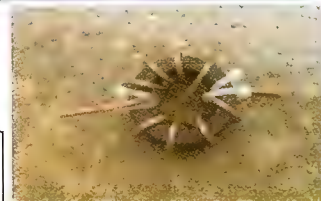
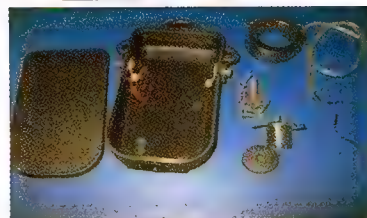
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adding a loading coil in the middle. A parallel switch shorts this out for use on the higher bands. In use the loading coil is threaded onto the telescopic pole.

The loading coil comprises 23 turns of thin insulated wire close wound on a 35 mm diameter plastic tube, in this case from an old vacuum cleaner. Rather than take this as gospel I suggest some 'cut and try'. Wind about 30 turns with taps every four or five turns, selectable with an alligator clip. Try various taps until you find the spot that allows the transceiver to see a 50 Ω load (in conjunction with adjusting the L-match which remains in circuit). This test should be done in ankle deep water since antenna characteristics will vary once you step ashore. Once satisfied make a permanent coil with no taps.

Use

Avoid running more than about five watts through this antenna. This is due to the low power handling of the L-match and, more importantly, any risk of getting a 'bite' due to RF on the counterpoise or proximity to the antenna. A good shoulder-carried bag can prevent your rig from falling into the water. And since you'll be ankle to knee deep in water, consider a wetsuit if operating during the colder months.

Results

As with any hand-carried HF antenna there will be a compromise; for instance seawater coupled via a small ring is unlikely to be as good as a large tuned radial system suspended over salt water.

Nevertheless signal reports have been gratifying, particularly on 7 and 10 MHz, with numerous stations easily worked. DX contacts have also been made on 14, 21 and 28 MHz. Even 50 MHz has produced some contacts, making the Wadetenna worth considering for summer sporadic E activity.

An interesting exercise particularly on the lower bands is to

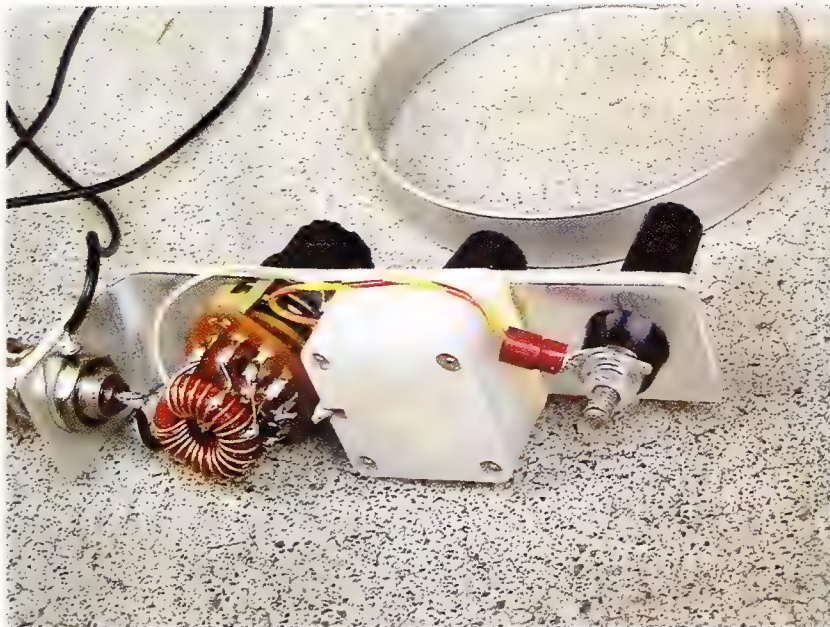


Photo 3: L-match and ankle strap.

make a contact while in the water and keep talking when walking on shore to moist and then dry sand. Your signal will probably drop at least two to three S-points with readability possibly also suffering. This underlies the importance of being in the water for this antenna to work properly.

This has been a rewarding project that is cheap to build. It

greatly extends the capability of your portable transceiver, providing contacts near and far. Provided you are in the water performance is probably better than magnetic loops at the lower end and similar at the higher end of HF. Visit [youtube.com/vk3ye](https://www.youtube.com/vk3ye) for a demonstration of this antenna.

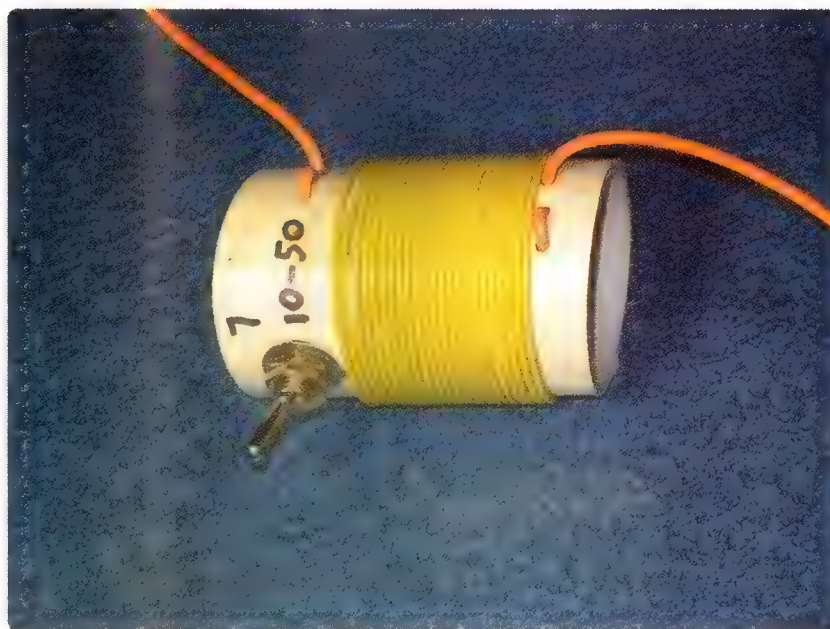


Photo 4: The 40 metre loading coil and switch for the Wadetenna.

The CW Operators Club

James Fleming VK4TJF -- vk4tjf@wia.org.au

There are a few CW clubs out there catering for the CW operator, however only the CW Operators Club (CWops) encompasses everyone who does CW.

Their goal is to bring together every amateur radio operator that enjoys communicating via CW. CWops is an international organization that supports CW activities with planned events and education of amateurs in CW. The focus is CW; it does not matter if it's contesting, DX, or rag chewing. CWops support every type of sending, straight key, bugs, paddles, cootie keys, or keyboards; if it's CW, it's good.

To become a CWops member you must be nominated by a current member and sponsored by three other members who have worked you twice within the previous twelve months. The nomination process must be completed within a period of five months. Now for the part that makes it easy, you can ask for nominations, you can work members during contests, or you can make skeds with members. It is expected that members be able to send and receive at 25 WPM, however there is no code test. The annual fee is US\$12.00, which can be paid via PayPal. Five year and life memberships are also available.

The CWops club has a weekly mini contest every Wednesday, three events lasting 60 minutes each. These three mini contests

are open to everyone – there is no need to be a member. Bands are all except for the WARC bands. Times are 1300Z to 1400Z, 1900Z to 2000Z and 0300Z to 0400Z. For members the exchange is your first name and CWops number and for non-members it's your first name and DX country prefix, or 'VK'. The N1MM logger is the way to go on this one, and best of all is that it is free! Scoring is one point per QSO and multipliers are each unique call sign. Post your scores to <http://3830scores.com> CWops encourages rag chewing between members with QTX activity awards for having a single QSO lasting at least 20 minutes. There are even QTX medals that you can get for rag chewing. The CWops club has an annual contest that everyone can compete in. CWops also sponsors various awards for contacting members such as the cumulative membership award, WAS award and worked all Europe award, to name a few.

Lastly, and the best of all, CWops has a free Morse code virtual classroom course. There are three levels that get your speed from 15, 20 and 25 WPM. Each course lasts two months in duration. The courses use interactive computer based training and bi-weekly web classrooms. In order to do the course one needs the commitment to listen to Morse code for 30 minutes daily, have

a computer with internet access for online meetings and a way to practice sending Morse code in the way that you want to send it. So for an all in one CW club check out www.cwops.org and I hope to hear your CW signal on the bands.

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73, Stephen,
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By Roger Cooke G3LDI

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Operating KH6BB on the Mighty Mo

Lance Martin VK6DU



Photo 1: The USS Missouri.

I am just back from a family holiday to the USA. I had planned to visit Hawaii so before leaving Perth I sent an email to John K1ER/KH6 to see if we could meet up whilst over there. John said that I would be welcomed to meet him and some other KH6 Dxers at their meeting on Tuesday for breakfast. He mentioned that I may get the opportunity to operate KH6BB on the Battleship Missouri. John put me in touch with Bill KH6OO, who I had made QSOs with before on CW. Bill does guided tours of the Missouri and is an expert. I immediately jumped at the offer and felt excited at the prospect.

I met Bill at 5.30 am that Tuesday, 17 June, 2014 in the lobby of my

Waikiki hotel. We took the bus to the DX breakfast over near Pearl Harbour and I met up with John K1ER, Tetsuo AH7C, Jim AH6OY and others at around 7 am. After breakfast there was time for a brief visit to Testuo's and John's homes, who are neighbours up on the hill. Wow, what a view of Pearl Harbour they have and such an excellent DX location.

After our visit John dropped Bill and I off at the Arizona Memorial and we met up with my family to venture to the Missouri. The Missouri is moored close to the Arizona Memorial but you need to take a bus to Ford Island to access it. This takes around 15 minutes.

And then, there it was, the USS Missouri, in all its splendour! Bill is

an ex-serviceman and a member of the KH6BB club so he has access to pretty well the whole ship! We made a bee line for the radio shack and all of a sudden I was calling CQ de KH6BB on 21018 CW. The setup of the Missouri is 1985 vintage so it was interesting to go back in time and operate an older model radio. Bill fired up the FL-2100Z for me so I was getting callers quite quickly. We had a dip in the solar flux that day but I still managed to put about 10 QSOs in the log before moving on to the next part of the tour.

The USS Missouri is a mightily impressive ship. I had never seen a battleship before let alone been on one; those guns are truly massive, so it was an experience that I will

never forget. The Mighty MO was integral in WWII and we all have read about the famous signing at the end of the war which took place on the ship in Tokyo Bay in 1945, so there is something special for you history buffs as well.

Bill KH600 is happy to take visiting hams for a tour on the Missouri (look up QRZ.com for details) and if you bring your licence you may also get the opportunity to operate, for this see <http://kh6bb.org/> for details. Bill made no mention of this but the antenna system on board the ship is in need of repairs, so if you visit the KH6BB site on the web you can donate to the improvement project.



Photo 2: The author Lance VK6DU operating KH6BB.

SA amateur receives the AM award

Producing well-trained and qualified university graduates is among the highlights for Professor Malcolm Haskard, who has been recognised in the Australia Day honours. He has been recognised for his significant service to science, particularly to electronic engineering, and to the community.

Prof. Haskard, 78, of Humbug Scrub, said he was shocked and honoured when he was notified of his appointment as a Member of the Order of Australia by mail some weeks ago.

"I was shocked and I guess really humbled," he said. "I never did any of these things for reward, I have enjoyed doing it all.

"My greatest pride is producing a fantastic number of graduates."

He fell into his career as an electronic engineer after wanting to become an aeronautical engineer, which he said was "the right decision". Prof Haskard was also recognised for community work including being a Justice of the Peace, amateur radio operator and founder of Kersbrook District Men's Breakfast.

Many amateurs will know Malcolm as VK5BA.

With thanks to Jordanna Schriever (<http://www.adelaidenow.com.au/>) and Brian Tideman VK3BCZ.

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Further Analysis of the 2014 WIA Survey

Christopher Platt VK5CP

In the May edition of *AR* we took a first look at the 2014 WIA Member Survey results. This month I will review the responses on the topics of preferred electronic communication mediums, attendance at WIA AGMs and the suggestions on how we can improve the operation of the WIA. A copy of the survey responses (excluding the free text responses) can be found at the bottom of the WIA web page for this issue of the magazine. <http://www.wia.org.au/members/armag/2015/march/>

The most popular communication medium was Facebook with just over 50% of respondent accessing it regularly; next on the list was Linked-In at 25% followed by Twitter at 18% followed by WordPress and Flickr at 10% each.

Regrettably only 10% of respondents had attended a WIA AGM in the last three years. The key drivers for the decision to attend the WIA AGM was location (78% of respondents), followed by the option of visiting a nearby place of technical interest (36%), a presentation from an ACMA representative (25%) and finally the cost of attending the meeting (25%).

The survey asked respondents what they would do if they were WIA President for a day. A surprisingly high number of respondents said they would not change a thing and indicated their support for the current direction of the WIA. We also received over 600 suggestions on things we could do to improve the WIA.

One method of analysis free text responses is to create a 'Wordle'. Wordle is a tool which uses an algorithm to analyse text and represents recurring themes by increased font size. A Wordle



analysis of all comments on WIA activities appears below.

As expected, references to the WIA and its members (or membership) featured prominently in the responses. At the time the Survey was conducted the WIA Board was considering a proposal to change the format of *AR* to an electronic publication. Comments on this proposal featured prominently. The split between those who supported the retention of the paper based *AR* versus the electronic *AR* was roughly even, which supports the current WIA position to offer *AR* in both formats.

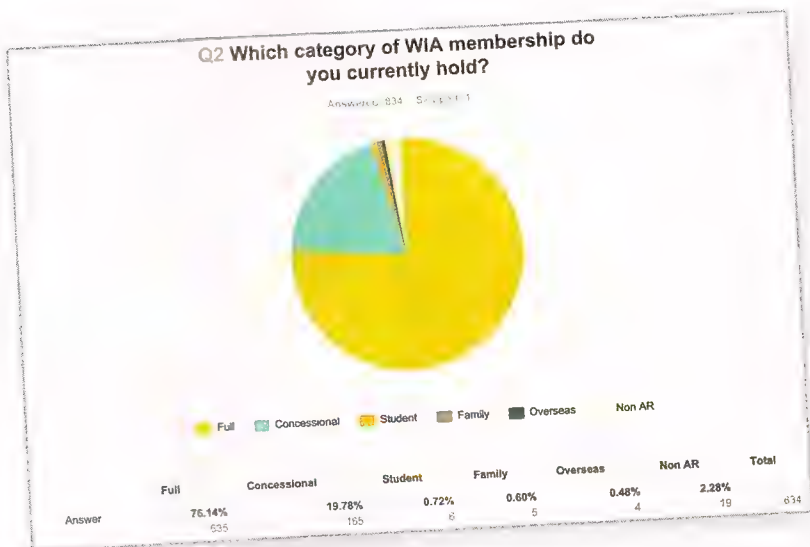
A less scientific method was also adopted to review the responses, this involved the time consuming task of reviewing each response and allocating them to broad categories. Using the process it was possible to distil out the top issues for respondents as detailed below:

1. Increase our communications with Clubs and provide greater support and assistance. This proposal is supported by the recent feedback I have received on the operation of the State based advisory boards. The survey also suggested that there should be greater visibility of

decisions made at WIA Board meetings, a balance of States in which Directors reside, and the conduct of WIA webinars with members/clubs on topics of interest.

2. The licence examination process is a key pathway to new WIA members. The survey feedback identified a demand to streamline the Examination Process and making it easier and cheaper to access examinations and to speed up the licence allocation process. Again this is an area where greater coordination of Club activities may make it easier to provide regular access to examinations during the year.
3. Increasing WIA membership was another common theme. A number of respondents proposed making WIA membership a compulsory part of the examination and/or licence process. Whilst this option is attractive, unfortunately it would also offend Australian Competition Laws. Another option was to give new licensees a period of free WIA membership – this option is currently under review by the WIA Board.

4. Another suggestion was to increase the visibility of amateur radio by increasing our media profile. It was suggested that the WIA take a lead role by providing 'template' media resources available to WIA Affiliated Clubs for use or modification as required.
5. The increase of licence privileges with an increase in permissible transmit power to a kilowatt also featured. There were some conflicting views on making the Foundation licence for a limited time only versus expanding F-call privileges. This is a difficult topic bearing in mind the Foundation level is our most common entry point for new members.
6. Another option put forth was for the WIA to co-ordinate classes to facilitate licence upgrades and the introduction of a formal



mentoring scheme for new entrants to the hobby to assist with education and development in the practical aspects of the hobby.

7. Finally the paper versus electronic format of our

magazine featured with a number of respondents calling for increased technical content of AR and publishing Contest results earlier on the WIA web page.



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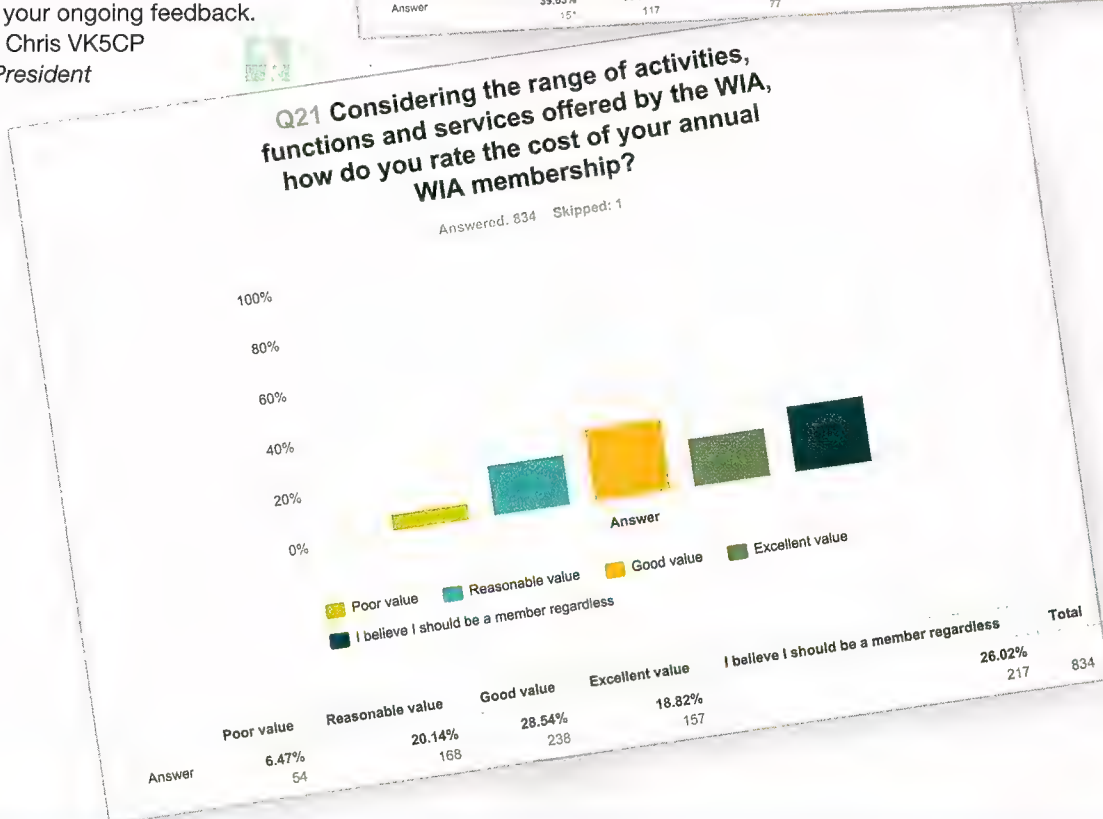
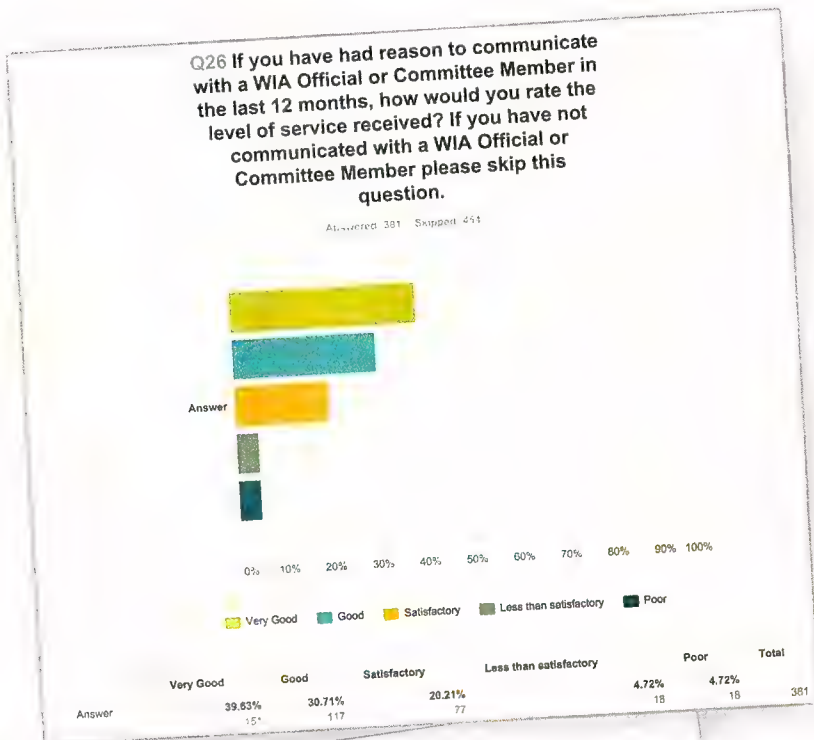
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Other topics of interest included Help with Antenna Approvals, Lobby to ACMA reduce licence fees and permit ownership of general coverage transmitters. Review call sign allocations and 1x1 calls, Protection from manufacturers interference, Free Beer, Get rid of the bookshop, Improve the QSL bureaux, and indexing the WIA membership fees to CPI.

I wish to thank the survey respondents for their considered responses; it has provided a wealth of ideas for the WIA Board to consider. All suggestions have been distributed to WIA Board Members for review. The challenge is now to evaluate and implement those ideas which provide the best 'bang for buck'. We hope to do this in the coming months and look forward to receiving your ongoing feedback.

73 de Chris VK5CP
Vice President



WIA Election of Directors

See the mailing sheet from this issue.

Express your right to influence your organisation.

Is it a BUG or a faulty engine management system?

Jack Bramham VK3WWW

I have two stories to relate. The first is an episode that happened to my car recently and the second is a work related issue but in both cases amateur radio RDF skills came into play.

Over the weekend I took a trip into the city to pick up some electronic components. I arrived, parked the car and all was well until I went to lock the car; the remote would not work. Earlier in the week I had dropped the keys in a puddle and just assumed some water got into it and the battery was flat. OK, I can still lock it with the key. Not so; as the key had probably never been used in the door lock it would not work. Probably too worn (I need to see a locksmith). So, a quick decision was made to leave the car, race in and get my purchases and get back on the road ASAP.

My next stop was the EMDRC clubrooms and when I get there my plan was to check the battery in the remote, so I grabbed a multimeter from the car and headed into the clubrooms. I told the members there of my remote problem and a few minutes later Damian VK3KQ went out to his car and came back complaining that his remote would not work. Peter VK3PH tried his remote, same problem. So the VK3WWW car looked like it was the culprit. Peter VK3PH did a quick scan on 70 cm and a pulsing digital carrier was quite strong on 433.85 MHz.

I drove away from the clubrooms and sure enough the signal became weaker. My first thought was maybe the engine management system had gone crazy but, also, maybe a bug could have been planted on my car. It was quite a sight to see four amateurs on hands and knees looking under the car for such a thing.



Photo 1: The culprit – the presentation tool/laser pointer.

I needed to go home to pick up some bits for an ATV test so my next step was to also grab a 70 cm ARDF sniffer. It was not long before I was home racing up the stairs to open the garage door; guess what? My garage remote is on 433 MHz and it was also being jammed. Now with the XYL intrigued and looking on, I was ready to give this little jamming device my full attention.

With the sniffer tuned on

frequency it was not long before I was opening the passenger door and getting a lot of activity from the glove box. Nah, not here! But wait! It seems a little lower, maybe on the floor. On the previous night we had a club meeting and the data projector was in the car to be returned to the clubrooms. I lifted the data projector out of the way to sniff under it and instantly the signal ceased. I thought 'What in



Photo 2: The remote affected by pulsing from the small weather station.

the data projector could be in the bag causing interference on 433 MHz'? Well, it was the PowerPoint presentation tool/laser pointer. The weight of the projector was enough to depress either the next or previous button. What a relief! It did get a laugh when I returned to the clubrooms. I am sure this story will be remembered for some time.

The next issue was work related.

Some of you will know that I am a locksmith (oops!) and these days more and more electronic locking solutions are appearing on the market replacing hard keys.

Well, this story involves an electronic remote controlled door lock. One of the locksmiths had been to this place and with one look at the lock he decided it was really badly worn and needed to be replaced. No problem, a replacement unit was sourced and installed. But, the three metre

remote range listed in the manual was more like 300 mm. I was asked to see if there was something we could do to increase the range as the customer was severely handicapped and unable to operate a conventional key.

A look in the manual and there was those numbers we see so often these days - 433 MHz remote.

Well I packed the handheld in the car along with the VK3YNG 70 cm ARDF sniffer. I had already tested a remote at work and had the lock and unlock frequencies in the handheld. The

following was quite

a funny experience. Our customer, although he could hear you OK, was unable to talk and to communicate he had to use his nose to type on the keyboard and the text would appear on a large flat screen TV. When I turned on the handheld there was a strong carrier on 433 MHz, so I put that down and turned on the sniffer. Our customer was having a ball, he was laughing and giggling and typed 'I bet this is a first for you'. When I answered 'yes', he was getting even more excited.

With the sniffer in hand I went straight to a small weather station display that was really pulsing away but, hang on, this is the receiver not the transmitter! I picked

it up and relocated it to the other side of the room. Once this was done, the remote's range started to increase. My customer was really getting even more excited knowing that the problem was found. But it took another relocation of the weather station display to the kitchen which really solved the issue.

Now my customer became serious and asked if I could test the remote on his wheel chair. This was still a problem as the range was very poor. I removed the remote from the wheel chair and it acted normally with plenty of range. What to do now? I had seen how difficult it was for him to use the remote but there must be a better option. For him, my solution would be very expensive but a quick call to the office telling them that all was working well except for the wheel chair and that problem I would look after myself at my cost. By modifying the remote and adding some larger buttons, this really helped him a lot. By separating the two, I was able to mount the buttons in an easy to access location and the remote transmitter in a location where it was not impeded by metal.

I am sure with the proliferation of LIPD devices on the market I will have many more experiences like this before retirement. Now, that door lock on the car!

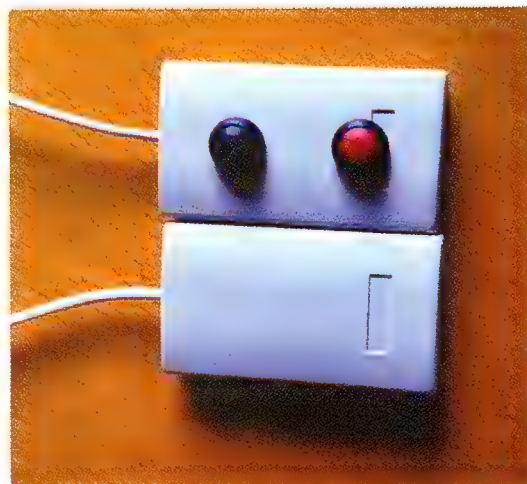


Photo 3: The modified remote, separated and with the larger push buttons.

10 GHz across Great Australian Bight & new World Record

Rex Moncur VK7MO, Derek Zeck VK6DZ, Colin Hutchesson VK5DK and David Minchin VK5KK

Summary

VK6DZ to VK5KK 1919 km JT4f -14, -15 dB

VK6DZ to VK5DK 2066 km SSB 5/2, 5/7

VK6DZ to VK7MO 2732 km JT4f -15, -16 dB, also SSB at 5/1, 3/1 (70 cm signals 5/9+ between VK7MO & VK6DZ)

First evidence of 1270 Hz signal, by VK7MO at 0729 and last at 1021 UTC on 5 Jan 2015.

VK6DZ: 10 watts to 60 cm dish, portable at Torbay Hill 24 km West of Albany at 207 metres, Latitude 35.072597 S, Longitude 117.625460 E

VK5KK: 5 watts to a 75 cm dish, portable at Crafers, about 10 km South East of Adelaide at 591 metres, Latitude 34.998899 S, Longitude 138.698384 E

VK5DK: 5.5 watts to a 60 cm dish, portable at Mount Burr 37 km North West of Mt Gambier at 242 metres, Latitude 37.602192 S, Longitude 140.482224 E

VK7MO: 50 watts to 77 cm dish, portable 6 km South East of Cape Portland at 50 metres, Latitude 40.783082 S, Longitude 148.022258 E
All stations GPS locked.

Background

This exercise has been around 3 years in the making and involved over 20,000 km driving and testing to put in place. The idea was to use the increased sensitivity of digital modes, higher power now available and larger antennas, combined with GPS locking, to extend the distance across the Bight. Such improved equipment could gain around 40 to 50 dB on the 100 mW, SSB, 40 cm dish systems used by VK6KZ and VK5NY back in 1994 to achieve the first 10 GHz crossing of the Bight and the then World Record.

Back in early 2012 VK7MO noted that it would be possible to extend the then existing World Record from Southern Portugal to the Cape Verde

Islands by operating from Cape Portland in North-East Tasmania to Torbay Hill in Western Australia (WA). About this time VK7MO had completed a 50 watt portable 10 GHz EME station but still had available his 10 watt portable station for the other end. The plan was for VK7MO to go to WA and work back to VK7JG in North-East Tasmania. VK7MO visited WA over a period of four weeks in November/December 2012 but conditions did not occur to allow an attempt. It was clear it would be necessary to have a station located in WA. Following discussions with VK6DZ who lives about 20 km West of Albany, he was keen to be involved.

In late 2013 VK7MO returned to WA with the 10 watt GPS locked 10 GHz station and spent several weeks running tests with VK6DZ which gave him some 22 grid squares on 10 GHz. On the way back to Eastern Australia, tests were also conducted with VK5KK to familiarise him with the JT4f mode. Then while VK7MO was still on the mainland, conditions improved such that it was worth going down to Port Campbell, Victoria, and JT4f QSOs were completed with VK6DZ by both VK5KK and VK7MO on 14 December 2013. In January 2014,

when conditions looked promising tests were attempted from Cape Liptrap in Victoria and Cape Portland in Tasmania without success and it was seen as necessary to wait for the next tropo season.

Late 2014 gave no useful indications of tropo across the Bight. On New Year's Day 2015, the Hepburn chart finally showed some promise for around 4 and 5 January. VK7MO telephoned VK6DZ to confirm that we should be ready but the day before he rang to cancel as the Hepburn charts were looking worse. However, on the morning of 5 January the VK Logger (Figure 1) showed extensive VHF propagation such that VK7MO rang again to say it looked like it was worth a try. VK6DZ was concerned about an approaching trough but said that while it was about to go through on one WX map, another suggested there might be a window of about 12 hours. VK7MO decided to give it a go, but requested VK6DZ to ring and cancel if the trough went through. It took VK7MO seven hours to pack and get to Cape Portland and it is possible that we missed the best of it as the reports of VHF propagation dropped off during the day.

While VK7MO was in transit, VK5KK attempted to work VK6DZ on JT4 for 30 minutes, but no signals.

VHF indication of propagation as recorded on VK Logger

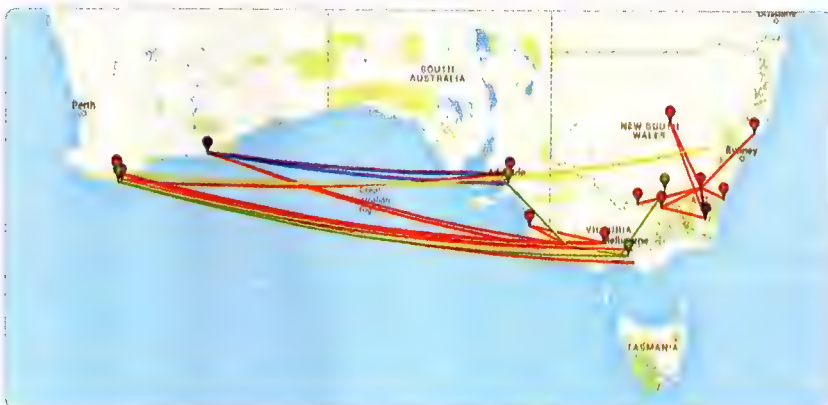


Figure 1: VK Logger 0000Z 5 January +/- 3 hours, about 8 hours prior to 10 GHz QSOs.

Hepburn Chart

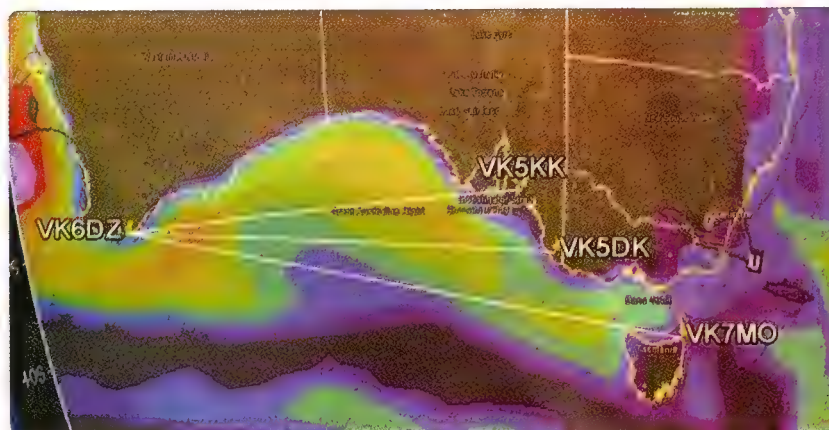


Figure 2: 0600 UTC on 5 Jan 2015, 2 hours prior to the QSOs, Hepburn chart adjusted by VK3HZ so lines of propagation are correct.

Note that VK5KK has 240 km of the path outside that coloured by Hepburn, across the two gulfs and VK7MO has weaker areas on Hepburn - both of which seem to explain the fact that VK5DK had the strongest signals and seemed to be in the optimum location.

Criteria for propagation across the Bight

VK6WG

The son (who now has the call VK6WG) of the late VK6WG said his father was of the view that a criteria for crossing of the Bight was plus or minus two days from a full Moon - but it is hard to see a connection in terms of the physics of propagation. However, it is still worth recording the view of one of the pioneers of crossing the Bight. And in this case the full moon occurred on the same day as the QSOs and only three days away for the 2013 QSOs. The late VK6WG and the late VK5QR were the first to cross the Bight on microwave with then 2.3 and 3.3 GHz World Records in the 1970s.

VK6KZ

VK6KZ (1) (holder of the first 10 GHz crossing of the Bight with VK5NY in 1994 and then World Record) is guided by the following criteria (and others) to predict ducting across the Great Australian Bight:

- The presence of a (Surface) high pressure cell in the Bight - preferably central pressure above 1026 hPa.
- Presence of a cyclone off North West Coast of WA.
- Perth Forecasts exceed 36 degrees.
- Reports of VHF propagation from Albany to Adelaide.

In this case, VK6KZ's criteria were largely met with a 1024 hPa high in the Bight, a low on the North West Coast of WA, Perth temperatures of 44 deg C on 5 January and VHF propagation across the Bight.

In his paper VK6KZ comments that signals are generally best in the evenings and early mornings, so it is possible we missed the best time in this case.

VK6DZ

VK6DZ who is located 20 km West of Albany, and has extensive experience working VHF across the Bight, gives priority to a surface high in the Bight as well as the Hepburn charts (not available back in 1994) and notes that propagation on VHF is lost as soon as a low pressure trough passes his QTH. There was a reasonable high in the Bight and the Hepburn charts did give a good, but not spectacular indication of propagation, and signals were lost on both 10 GHz

and VHF about eight hours before the low pressure trough passed through.

VK5KK

VK5KK (who has been involved in the 1994, 2013 and 2015 crossings of the Bight) considers that the similarity of the surface charts from 1994 to 2013 and to 2015 gives a good indication of what is required: 1023 hPa, usually mid 20s in Albany and similar conditions across the Bight. The high is elongated by land-based low pressures and troughs. Opening is on the tail of the high and clearly there has to be an upper level duct evident (strong 144/432 MHz signals).

What is the best time? Based on four night 10 GHz openings (1994 & 2013), signals improved after sunset and peaked around 1-2 hours after. On one morning contact (2013), VK6DZ's signals were steady at 2300 UTC (about 9.00 am local mid-path) but dropped shortly after. I suspect VK6DZ's signal did not drop out overnight in 2013 and could well have been around the next morning in 2015 as well. Over the same path 1, 2 & 3 GHz followed the same pattern right back to VK6WG and VK5QR's work.

For Adelaide, some of the reason, [for the night time propagation] could well be the improvement of propagation over the last few 100 km across the combination of land (80 km) and two gulfs to get to the Bight. Daytime QSB has been observed on 10 GHz on 200 km paths (usually morning and late afternoon) across the gulf areas, similar to what was witnessed this time with VK6DZ's 10 GHz signals before sunset.

VK3KAQ (now VK3OE)

VK3KAQ (4) has looked at the formation of ducts using SODAR (acoustic sounding measurements) of the lower 1100 metres of the atmosphere. His data clearly shows the breakup of the inversion during the day. However, his measurements were made at Tullamarine, north of Melbourne,



Figure 3: Previous World Record from Southern Portugal to Cape Verde Islands 2696 km.

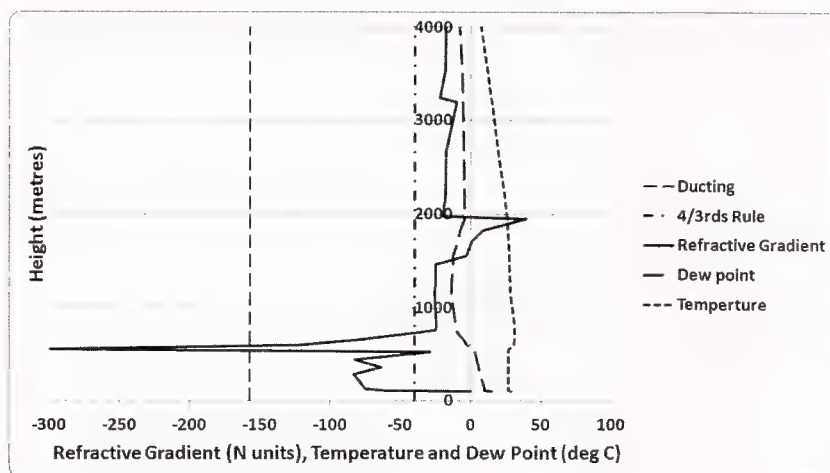


Figure 4: Refractive Gradient Previous World Record - mid-path, Tenerife, 1200 UTC 10 July 2010.

where the land mass would be a significant factor. It seems reasonable to assume that the

ducts break up during the day due to heating of the ground and vertical convection. If this is the case then

perhaps the ducts do not break up over the ocean where surface mixing would inhibit convection.

VK3ZQB

VK3ZQB (2) has proposed that the formation of a duct requires not only a surface high but that there must also be an upper level high to provide the downward movement of air to form the duct. He concluded that the prediction of a duct can be done by looking at whether in addition to a surface high there is a 500 hPa high to drive the formation of the duct. Examination of the 500 hPa charts shows an upper level high in this case.

Previous World Record from Cape Verde to Southern Portugal

The previous 10 GHz World record (3) was at 10:48 UTC on 10 July 2010 between D44TAX/HB9AYX and CT7/F6DPH over a distance of 2696 km (Figure 3). Also shown is the refractive gradient (Figure 4) near to the time (from Tenerife roughly in the middle of the path) which shows a strong duct (~300 N units) at 560 metres similar in height to the ducts for crossing the Great Australian Bight.

Comparison of Surface Charts for previous and Current QSOs

The surface charts for the 1994, 2013 and 2015, 10 GHz crossings of the Bight are at Figures 5, 6 & 7 and show a marked similarity with a high in the Bight bounded by a low pressure trough near the Western end of the path and no troughs or fronts within the path.

Esperance Data at 0000z 6 January, some 16 hours after QSO

Unfortunately, there is now very sparse radiosonde data across the Great Australian Bight. Whilst well after the QSOs, the duct would have still been present near Esperance some 430 km East of where VK6DZ was operating and should be

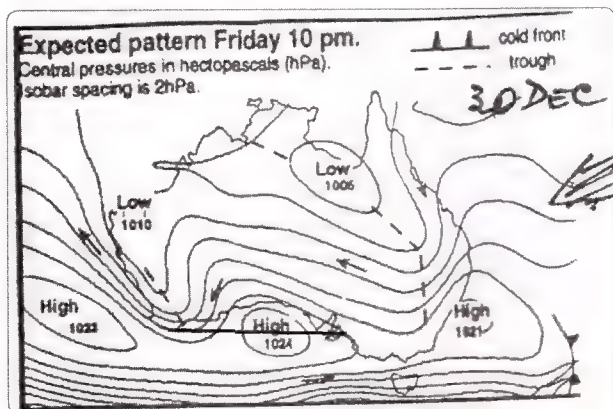


Figure 5: 30-12-1994, First 10 GHz crossing of the Bight, then World Record, VK6KZ to VK5NY 1912 km.

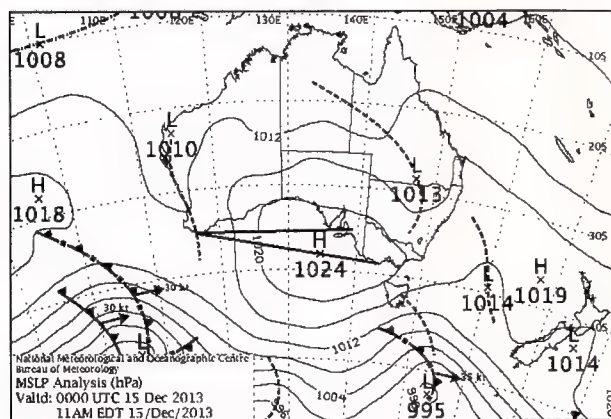


Figure 6: 14-12-2013, 10 GHz crossings of the Bight, VK6DZ to VK5KK 1913 km & to VK7MO 2293 km.

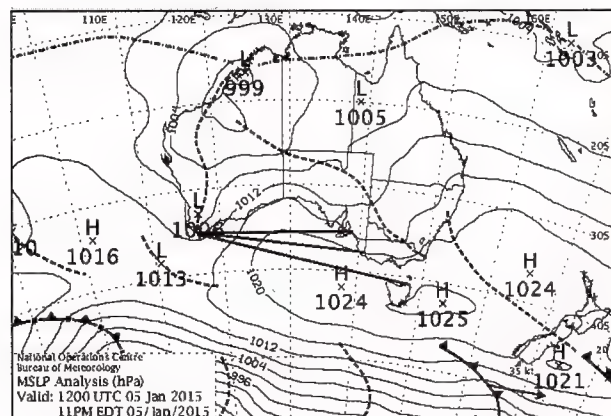


Figure 7: 5-1-2015, 10 GHz crossings of the Bight, VK6DZ to VK5KK 1920 km, to VK5DK 2066 km & to VK7MO 2732 km.

reasonably representative of the duct at the time of the QSOs. The radiosonde data (Figure 8) shows a very strong duct with refractive gradient of -589 N units at 486 metres - significantly exceeding the -157 N units required for propagation around the curvature of the Earth.

Signals Received at VK7MO and VK6DZ

At 0725 UTC, almost immediately after VK7MO set-up at Cape Portland, a weak 1270 Hz tone was present on the waterfall during one RX period (Figure 9). But it was 40 Hz low (with hindsight the explanation for the 40 Hz error seems to be that there was insufficient time for VK7MO's GPS to complete a survey and produce an accurate reference). Then nothing at all was received for the next 25 minutes leading one to wonder if it was real or if we were too late.

Then at 0749 there was evidence of a weak signal (Figure 10) with a good DT and DF, as well as a # sync indicating that VK6DZ was sending a report. By 0753 signals built up to -16 dB at VK7MO and callsigns and a report were received. By 0756 the QSO was completed. By around 0810 signals were peaking audibly at VK7MO and an SSB QSO completed 3/1 & 5/1 over some 15 minutes. On returning to JT4f signals continued to build up and peaked around 5/3 & 5/5 by ear. JT4 exchanges continued until signals faded with the last indication of a 1270 Hz tone almost 3 hours after the first detection of a signal.

Signal Levels

JT4 tends to compress signal reports when signals are stronger than -14 dB. When using single tones it is possible to get a more accurate measure of S/N by using Spectrum Lab. The S/N of the strongest single tone signal received on 10 GHz by VK7MO is plotted below to compare with that received by VK6DZ.

While there is around 20 dB QSB on both plots one would estimate the average S/N at VK6DZ at around 48 dB and that at VK7MO at around 42 dB reflecting the difference in transmitted power between 50 and 10 watts. The data was collected in a bandwidth of 30 Hz so the average S/N in an SSB passband would be around 28 dB at VK6DZ and around 22 dB at VK7MO on these best signals.

Would night time have been better?

All QSOs in this case were in the late afternoon/early evening when signals faded. The earlier comments from VK6KZ, VK5KK and VK3KAQ all support the view that signals are better at night. In large measure these comments are based on part of the path being over land and thus the inversion is broken by heating the land and convection during the day. In this case (5 Jan 2015) the stronger signal to VK5DK went over only 28 km of land so at his height of 242 metres he could still enter the duct over the sea. It is suspected while propagation over land is affected by the duct breaking up during the day this may not be an issue when the path is totally over water.

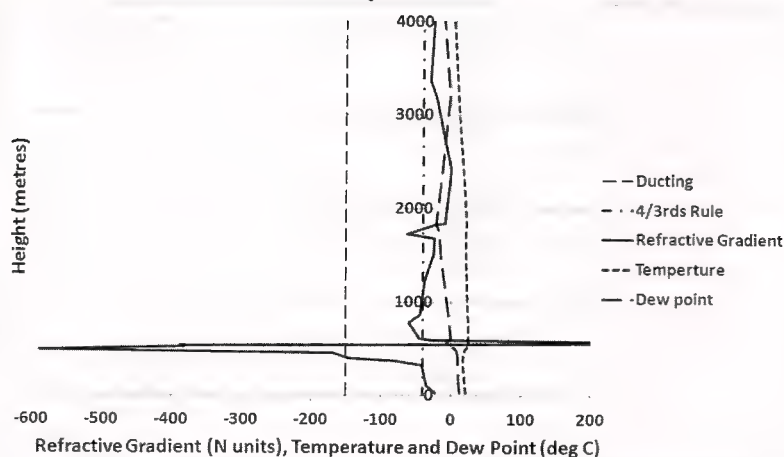


Figure 8: Esperance radiosonde data shows very strong duct.

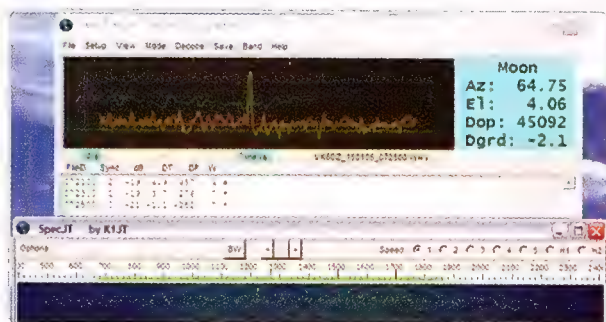


Figure 9: Weak 1270 Hz single tone on waterfall but clearly evident on the yellow spectrum graph.

Possible extensions of the path?

It is potentially possible to retain a water path and extend it to over 2800 km if VK6DZ could operate further West from around Walpole. Beyond that one could consider operations from Cape Leeuwin (2972 km) from where VK6KZ (1) reported QSOs across the Bight up to 1296 MHz. The Cape Leeuwin option would have the first 70 km over water and then 120 km over land before water again for the rest of the path.

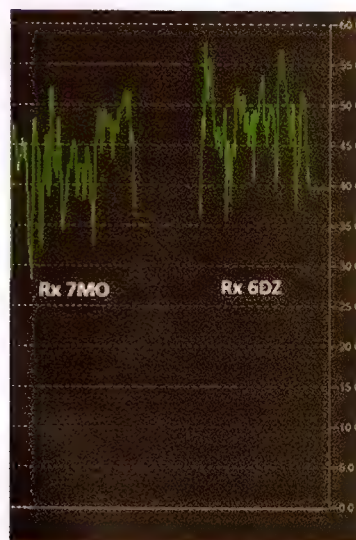


Figure 11: Comparison of S/N on best single tone signals (time for each section of signal around 20 seconds, vertical scale from 0 to 50 dB).

VK7MO ALL.TXT						VK6DZ Decodes					
Time	S/N	DT	DF			Time	S/N	DT	DF		
074300	0	-21	0.3	-83	7 *	074400	1	-19	-0.8	-59	4 #
074500	0	-21	3.6	-35	7 #	074600	3	-18	-0.0	4	7 * Good DT and DF
074700	0	-21	5.6	57	4 #	074800	3	-18	-0.1	4	9 * VK6DZ VK7MO QE49 0 13 B
074900	1	-20	0.3	-13	7 # Good DT and DF	075000	2	-18	-0.0	0	9 *
075100	3	-18	0.3	-11	4 #	075200	3	-17	-0.4	2	9 * VK6DZ VK7MO QE49 0 22 C
075300	4	-16	0.4	-9	7 # VK7MO VK6DZ -15 0 4 C	075400	5	-16	0.0	-2	9 # VK6DZ VK7MO R-16 1 15 B
075300	2	2/2			VK7MO VK6DZ -15 0 6	075600	0	-21	-1.5	20	4 * 73 received
075400	Transmitting: JT4F VK6DZ VK7MO R-16										
075500	0	-21	5.3	-15	7 # RRR received						
075600	Transmitting: JT4F @1700 (73)										

Figure 10: First QSO. Good DTs and good DFs in bold. Added comments also in bold.

The maximum elevation over land is 183 metres which should be well below a possible duct and perhaps by operating at night the duct would not be broken up. There are no options for going further East in Tasmania.

References

- (1) W. Howse VK6KZ, "VHF, UHF and Microwave Propagation and the Great Australian Bight", Amateur Radio, March 2001, page 4.
- (2) Russell Lemke VK3ZQB, "Predicting Tropospheric Propagation across the Great Australian Bight" proceedings of GippsTech 1999, page 47.
- (3) Paul Andre Schmid HB9RXV, "A new World Record on 10 GHz", DUBUS 3/2010 page 128.
- (4) Andrew L. Martin VK3KAQ, "VHF and Microwave Propagation Characteristics of Ducts" GippsTech 2004, Page 1.



VK2news

Tim Mills VK2ZTM
e vk2ztm@wia.org.au

The 2015 AGM of ARNSW will be held on Saturday 2nd May at the VK2WI site. Nominations for committee have been called and will close at 12 noon on Saturday 21st March 2015 at 63 Quarry Road, Dural. Forms are available on the ARNSW web site.

The next round of the Foundation course and assessments conducted by ARNSW were scheduled for 21st and 22nd March. As this weekend clashed with the John Moyle Field Day, the course and assessments have been moved to the **28th February and 1st March**. It is however - fully booked.

The next available weekend is in **May on the 23rd and 24th**.

Bookings are essential and have to be made by email to education@arnsw.org.au

Keep an ear on the VK2WI News Sunday sessions for where Foundation courses and assessments are available. To do this we ask that clubs and groups conducting these events to send news items to VK2WI News at news@arnsw.org.au

The Monday evening ARNSW upgrade course commences for 2015 on 2nd March, 7 to 9 pm. and will continue, except on public holidays, until mid-November.

In 2014 ARNSW introduced a Development Fund which eligible VK2 clubs could apply for. It is on

again this year with the close date of the 11th April 2015. Check out the downloadable application form on the web site at www.arnsw.org.au

There will be one of the ARNSW field days at the VK2WI Dural site on Sunday 8th March at 10 am. The topics to be covered will be digital modes including P25, demonstration of microwave and the field use of same, along with D-STAR.

To plan the catering please email your interest in attending to fieldday@arnsw.org.au

73 Tim VK2ZTM.

Special event callsign VI110ROTARY

Phil VK2MCB

ROAR Vice President for Australia, New Zealand and Oceania

On 22 February 2015, at the Wyong Field Day, members of Rotarians of Amateur Radio, or ROAR, will launch the Special Event Call VI110ROTARY and will operate on 40, 20 and 15 metres until 31 May 2015. The special event is in celebration of the foundation of Rotary International, 110 years ago.

Rotary International is a service organisation of 1.2 million people who come together to create positive, lasting change around the world. Rotary International was founded in 1905 in the United

States and has now spread to most countries.

Rotary's signature initiative has been to eradicate Polio from the world. This has largely been achieved, with the assistance of Governments, the World Health Organisation and prominent community members such as Bill Gates. We are now very close to achieving our objective.

As 2015 marks our 110th anniversary, Rotarians world-wide will celebrate using special events to publicise the Polio initiative to

help speed the eradication program.

Over four hundred Rotarians are amateurs and members of ROAR. The Australia, New Zealand and Oceania chapter of ROAR will operate using the VI110ROTARY call, beginning at the Wyong Field Day and lasting for three months.

Listen out for VI110ROAR on 7118, 14295.2 and 21295 kHz and say G'Day. Better still, come and visit the ROAR station at Wyong on 22 February. We should have a new ANAN SDR in operation.

73.

Yet another month has gone by and the Contest season is now upon us. Time to dust of the logging programs and work all those DX countries that you have missed so far as they participate in the major contests of the Spring/Autumn equinox. Good luck.

Anyway back to the monthly updates from this fair State of ours.

First this month is the **Bunbury Radio Club**.

Our next monthly meeting will be held in Collie at 1400. All are welcome and anyone interested can contact our secretary, Brian (VK6TGQ) on 0403 975 953 for further details.

We are hoping that it will provide an opportunity for other amateurs in the Collie area to meet with us.

The Bunbury Radio Club generally covers the South West area of the state, however with members as far away as Exmouth, Kellerberrin and Nannup. Club meetings are held on the second Saturday of each month. The Club operates and maintains two repeaters, 2 m and 70 cm (VK6RBY) near Harvey.

The next lot of licence assessments is planned for 4 April and already we have eight people interested in upgrading or doing their Foundation licences. Our focus is on catering for current or potential amateurs in the South West region of WA, but any one is welcome to join us.

Alek VK6AP is working on the club possibly running a station on the John Moyle Field Day. Watch this space for further developments.

After a short outage, the VK6RBY IRLP node is now back up and running thanks to Neil VK6FNKS.

Any South West based amateur is more than welcome to join and



Photo 1: Ray VK6ZRW installing the Yaesu Fusion repeater.

participate in our activities. The annual fee is only \$25.00. Amateurs wishing to join can contact the Club via our Secretary, Brian Andrews, on 0403 975 953 or vk6brc@wia.org.au Also if passing through put out a call on our repeaters 146.650 or 438.650.

Thanks Norm, hope to catch the club in the John Moyle.

Next this time is Will VK6UU (will2@iinet.net.au) with an update on the Yaesu Fusion repeater recently installed by **WARG**.

After considerable testing and learning about Yaesu's new Fusion repeater, WARG (West Australian Repeater Group) purchased two Fusion repeaters, one funded by WARG and the other from donations.

The Fusion repeater is an analogue FM and digital repeater, with a selection of power outputs of 5, 20 and 50 watts. Also the repeater operates on 2 metres or 70

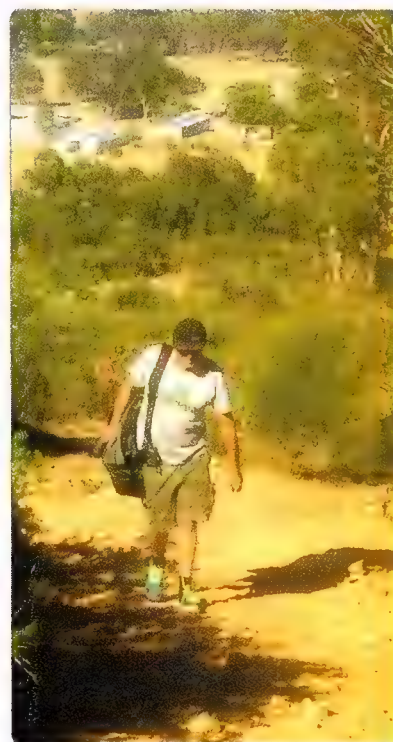


Photo 2: Martin VK6ZMS carrying the Yaesu Fusion repeater up the long track to the site.

centimetres but only one band at a time. The repeater can also operate in cross band as well.

A decision was made to replace the analogue FM repeater (VK6RTH 2 m) at one of WARG's sites at Tic Hill, some 35 km NE of the Perth CBD. First the emission designator for the site had to be changed from 16K0F3E to 16K0F9W.

The new designation combines both analogue FM and digital. The digital encoding is on four FM carriers modulated with the digital information. This was just a phone call to the ACMA, who made the change by the next day and at no cost.

Well done ACMA.

The repeater is easily programmed from the touch sensitive front panel. Repeater input and output frequency, power, CTCSS encoding, time out, CW ident and level all done in just a few minutes. The decision was made to run the repeater at 20 watts, even though the repeater is rated at 50 watts continuous. Also the receiver is sensitive at 0.2uV for 12 dB SINAD. The Australian version is 12 volt only and draws between 0.8 amp and 1 amp, depending on the front screen being on (can be turned off) and the internal fans running (above 20 C).

The site the repeater was going to is somewhat difficult to access. Being on a mine site requires the mine site owners to make available staff and equipment to escort us to the repeater site.

As we don't like to do this too often, an alternate way of getting to the site was decided upon, but it is walking only, up the hill with a climb of 160 metres and a total walking distance of one kilometre. Martin VK6ZMS volunteered to carry the repeater up the hill, accompanied by Ray VK6ZRW. All went well and in little time the repeater was on air. There are site issues with the APRS transmitter interfering with the repeater's receiver and the solar controller putting out noise and spurious carriers.

All these issues will be addressed as soon as possible.

The Fusion system integrates FM and digital well. In the AMS (Automatic Mode Selection) whatever comes in goes out and the Fusion radios switch to that mode. The repeater can also be set up to be FM only or various combinations of FM - Digital.

For example AMS in but FM fixed output. Conventional FM users should program their radios for CTCSS (123 Hz) decode so as not to hear the digital modulation, which sounds like noise.

A digital QSO can be going on and the FM only user would not know unless they look at their S meter. Our site has remote control of all repeater systems, in that via an independent system, repeaters can be turned off via the 12 volt feed to the particular repeater. With the Fusion repeater this is a valuable control, as with all new computer controlled systems, being able to turn off and back on allows for a re-boot of the repeater. There is a lot to this new FM - Digital system but in particular is the relative small cost of the repeater: \$1,750 from local amateur retailers. Even if you just want a new repeater for FM only, it is a worthy option. The software for the repeater is being upgraded from time to time as the system develops, along with Internet interconnectivity for linking repeaters together.

Thanks Will for the news, there is more from WARG from Steve VK6SJ.

Some of it overlaps Will's report so here are the additional bits!

HF beacon VK6RBP: after an absence of several months, VK6RBP operation was restored on 31 December 2014. Thanks to the efforts of VK6SJ and VK6AXB, and especially to Charlie W4NJK at NCDXF for supplying an exchange transceiver. Local and international reports indicate the beacon is performing well.

D-STAR VK6RWN: This service became disconnected from the

D-STAR network for a period of years, due to a complex failure of the server and network connection - however, thanks to the efforts of Joe VK6ZTN: the server is now rebuilt, a network connection re-established, and since mid-January, Perth's D-STAR community is enjoying the return of VK6RWN 2 m and 70 cm D-STAR nodes. Some gateway user registration problems are being sorted out, but the system is able to be linked into other conferences. The 23 cm node should soon be back on line once some antenna issues are resolved.

WARG's first meeting for 2015 took place on Monday February 2nd. The meeting included a presentation from Steve VK6SJ on various options for the upgrade of the WARG backhaul network interconnecting its sites in a single network. Over the month of January, much discussion has been had amongst the amateur community in WA on various options which is great to see. Our next challenge is to choose a direction and have it implemented before our 40th birthday celebrations in August.

Thanks Steve, WARG has been busy lately.

Now a welcome report from the WAVHF Group,

News from West Australian VHF Group Inc.

Monday evening January 19th 2015 not only was the first evening meeting for the club, but also another milestone in the creation of the WAVHF GROUP new premises in the transmitting cottage alongside of the Wireless Hill Museum in Ardross, Western Australia.

Many thanks go with the massive input and preparation provided by Bob VK6KW, members assembled to feed numerous coaxial and data cables into the prepared trunking linking the cottage to the Museum. Everything went rather smoothly with members manning cable drums, winch ropes, with copious amounts of talcum powder. On completion everyone

retired to a well-earned cup of tea and a rag chew about the clubs activities in the coming year.

Next and subsequent meetings return to the fourth Monday in the month from February, with extra activities to be announced.

Beacons in the South West Australia, Mt Barker VK6RST & Esperance VK6REP are in the throes of being replaced with GPS locked frequency sources utilizing synthesizers manufactured by Graham VK3XDK. Soak testing of power supplies and PAs is progressing. New 70 cm Yagi antennas are being built for VK6RST to be installed when beacons are replaced. VK6REP is off air due to site being sold. The old beacon was retrieved with the assistance of Mark VK6BSA. The beacon was not working and showed damage from mice urine and faeces, especially to the power supply. On providing a new power supply, the old beacon burst into life and was rearing to go. Ah such is the old reliable 828s – still keep on keeping on. Not before time VK6REP will hopefully be replaced with a new 2 m and 23 cm output. A new site is hopefully in the offing still in Esperance.

Thanks Bob and Terry for the updates.

The Hills Group HARG has been active in replacing their stolen equipment and looking to the future, here's more from Bill:

News from **HARG** - The Hills Amateur Radio Group.

In December, the members of NCRG (Northern Corridor Radio Group) generously donated \$1000 to HARG to assist in replacing stolen equipment.

In February HARG placed an order for the new, enhanced, Kenwood TS-590SG HF/50 MHz Transceiver and by the time you read this the club should have made initial contacts with it. The transceiver will be stored off-site between meetings. Thanks again to NCRG.

Over the weekend of 21 and 22 March, HARG will go bush to

Mount Gunjin in Hacketts Gully for the John Moyle Memorial Field Day using the new TS-590SG plus lots of antennas.

On Sunday April 12 the club will hold its popular HARGfest white elephant sale but this year it will be bigger, better and more comfortable.

This year, HARGfest is moving to a new, larger venue – the Lesmurdie Hall at 96 Gladys Road, Lesmurdie. This is a modern hall with reverse cycle air conditioning and is much bigger than the one at the HARG clubrooms; it has a good kitchen and several outdoor covered areas suitable for eating lunch or chatting with friends.

Exact starting times will be announced later but will be mid-morning to mid or late afternoon.

For the remainder of the year HARG are organising some interesting technical talks on subjects such as HF Propagation, Radio to Computer Interfacing, AllStar Link Network and JT65-HF Weak Signal Mode. The club is also planning several practical days on antenna building. HARG will provide suitable antenna designs and members will be able to purchase kits to assemble the antennas at the club rooms. The committee is keen to hear suggestions from members and others for practical activities and technical talks at future meetings. The official contact point for the club is secretary@harg.org.au or PO Box 367 Kalamunda WA 6926.

HARG Meetings are held twice a month at the club rooms near the corner of Brady and Sanderson Roads in Lesmurdie. The Social and Practical meeting is held on the second Saturday of the month and the General Meeting, often with a technical talk, on the last Saturday of the month. Doors open at 12.30 pm for a barbecue lunch and the meeting starts at 2.00 pm. Everyone is welcome. More information at www.harg.org.au

Cheers and 73 until next time from Bill VK6WJ Publicity Manager for HARG.

Nice to hear things are progressing after the break-in and the new venue sounds excellent!

Finally this month an update from **NCRG** where things have been moving along albeit slowly in the heat!

Antennas are still being worked on ready for the big move around and extensive modifications being made to the beams to increase gain and optimise performance.

One piece of "bad" news unfortunately was received from ZS2FM regarding the 2 metre Indian Ocean Beacon VK6RIO, located at NPSARC in Whiteman Park. As you are aware, the WIA sponsored this project to the tune of \$1000 some time ago and Phil VK6PH and myself have also dipped deeply into our own pockets to get this off the ground. The ZS group in Port Elizabeth approached the South African Relay League in the hope of receiving a donation of a similar amount to pay for some of the ZS end of the project. The ZS gear has been built by Phil and various HPSPDR boards were bought by myself. Sponsors including TAPR and InnovAntennas have donated other required parts so some recompense is being sought to reduce the out of pocket costs incurred.

Then SARL, at a meeting late December, made a statement that the project was an Australian one, so they did not feel obliged to assist financially. This has left the Port Elizabeth club struggling to raise the funds as all is ready to be shipped to ZS for the beacon to be activated.

Hopefully I will have good news for next month's notes.

Well that is it for this month's notes; please remember to send in your contributions before 27th of each month if possible, it makes my life easier.

73 de Keith VK6RK



VK3news Geelong Amateur Radio Club

Tony Collis VK3JGC

GARC in the Park

Once again the annual **GARC in the Park** took place at Eastern Gardens in Geelong near the Rotunda. The Club, as usual, provided the meat and BBQ and soft drinks whilst the guests provided salads, pasta and other dishes; this event is most definitely on Jenny Craig's Black List! It is a great opportunity for club members to bring their family and friends along to enjoy a social evening, somewhat devoid of radio, but heavily focussed on food and drink. Our thanks to Jenni, Vanessa and Courtney for the work they put in to make the event so successful.

The first 2015 VHF / UHF Field Day Weekend

Team VK3ALB, lead by the Club President Lou VK3ALB, this time around included Matt VK3MAT. Some of operators in VK3 will know Matt and others may have seen him on VKlogger. This was Matt's first big microwave experience and the general opinion was that he did extremely well.

Those that worked VK3ALB would agree that Matt on the mike did an excellent job of managing liaison, single contacts and pile-ups. He picked up the gist of the operation and got stuck in to all

aspects of a microwave operation including station assembly and preparation, operating techniques and logging processes. Numbers were down on previous events no doubt due to the terrifying forecasts of torrential rain in the few days leading up to the event. However Lou and the team decided to ignore the warnings and head out anyway, fortunately the forecasts did not materialise. One unexpected surprise was an opening on the *magic 6 m band* into VK4, where they were able to work VK4ADC, VK4DCM and VK4WS and VK2AET. Best distances worked on the other

Photo 1: A group photo of GARC members and families.





Photo 2: Matt VK3MAT and Nik VK3BA operating during the contest.

bands were, on 2 m 577 km to VK5AKK and VK5PJ and on 23 cm through to 9 cm was VK3WRE at 240 km.

On reflection Lou felt that it's easy to focus on the things that didn't go so well or get

disheartened because there weren't so many people about. But he believes that a good way to tackle these events is to compete against your previous score or a similarly equipped station. It is unlikely that they will ever beat the big stations in

VK3 but they gave a good account of themselves and will always strive to do a little better each time they go out. One of the important parts of the VK3ALB operation is their constant striving for improvements be it with equipment, or contact

Photo 3: The microwave setup at VK3QM/P.



distances or operating technique. Ever since they started their field day outings they have never failed to improve in at least some aspect of their operation. They are now looking forward to the Winter Field Day

David VK3QM is normally part of the **VK3UHF** team but decided to go solo on the Sunday to activate the microwave bands under his own call sign. However without a key VHF station to initiate first contact, the results were somewhat disappointing in that the only station worked was **VK3ALB** which he managed to work on microwave frequencies up to 47 GHz from two grid positions.

Team VK3UHF/P had every intention of operating in the Summer Field Day but, as with **VK3ALB**, the dire weather forecasts leading up to the weekend led them to abandon their traditional full-blown operation. Having in the past endured lightning, horizontal rain, Antarctic temperatures and winds, and once witnessing a tornado, they decided that discretion was the better part of valour.

In the end, Chas **VK3PY** decided that should there be a break in

the weather, they would attempt a shortened operation on the Saturday, using *modest equipment*. That is what transpired, but the full fickleness of weather forecasts was revealed by the most benign conditions they could have wished for. However it was too late to change their plans by then. In the end, they racked up a satisfying score in the 8-hour multi-operator section using all bands from 50 MHz to 47 GHz. Perhaps the most outstanding contacts of the day were to Rod **VK3BQJ** in Bairnsdale on 1.3, 2.4, 3.4 and 10 GHz, a distance of over 350 km.

Team VK3ACG/P Particularly satisfying was the first-time operation by yet another GARC field group, this time led by Chris **VK3ACG** and Gary **VK3FWGR**. They mounted a "roving" operation, activating three grids (**QF21**, **QF11** and **QF12**) on 50, 144, 432, 2403, 3400 and 5760 MHz.

They borrowed transverters for 2.4 GHz, 3.4 GHz and 5.7 GHz bands from club members, and had radios capable of 6 m, 2 m and 70 cm, so they decided to operate on all six bands that they had available.

The microwave equipment consisted of a single dish with a multiband feed, a modified **IC-202** 2 m rig as an IF radio and the three transverters. For 6 m, they had an **IC-706MK2G** and for 2 m/70 cm a **FT-857d**.

So, with all the transceivers sorted they needed to hold up antennas. A borrowed 5 element home brew Yagi was used for 2 m, a Cush Craft 10 element Yagi for 70 cm and a home brew 'flowerpot' vertical made from **RG58** coax for 6 m. A mount was fabricated to go under the wheel of the vehicle and hold up a mast with the 2 m and 70 cm Yagis. A squid pole attached to the bull bar was used to hold the 6 m vertical.

This was a herculean effort, especially as much of the microwave equipment and power sources they used were assembled in just a few days leading up to the event, meaning they had to figure out how to operate it "on the hop". Such was their determination and initiative that it all went like clockwork for them working 75 stations.

Silent Key

Ralph Leo Gunther – Elaine Mary Foster
W6THN – VK7RG – VK3EQY

Leo – also known as Elaine – was one of the more complex people in the amateur radio world. Much of that was due to searching for identity and meaning through many other facets of life, eventually finding contentment as a woman. Leo obtained a licence at the age of 13 in the USA as **W6THN** in 1939, served in the US forces in occupied Japan at the end of the war and after studies in Biophysics obtained a Doctorate in 1960. Leo sought to escape from McCarthyism, studied in Europe and eventually came to Tasmania in 1963 working at the University of Tasmania and taking the call sign **VK7RG**.

Leo was reluctant to go on air but was an avid electronics experimenter and will probably be most remembered for editing

the occasional magazine, the "Equipment Exchange Bulletin" (**EEB**) in over a hundred issues between 1965 and 1974. The quirky **EEB** had the by-line "Commonsense Electronics", and covered everything from experimental optical communications to the making of home brew beer, with a fair sprinkling of humour. It was published from a front room in Leo's home in Hobart, at first on a Gestetner duplicator and eventually using commercial offset press services.

Personal and social stresses were overwhelming and Leo came to Melbourne with a change in identity as Elaine, abandoning Biophysics and working in childcare services but the call of radio was still there and she took the callsign **VK3EQY** (Elaine Queen of Yesterday) and sought

friendship in **EMDRC** and **ALARA**. She continued to publish but in even quirkier US magazines on mostly humorous non-radio topics, and on an Internet blog covering radical politics.

Physical weaknesses associated with old age caught up with her and while her short term memory was virtually nil, she retained her ability to reason at the leading edge of scholarship right to the end. Elaine died quietly in her sleep last December in a care facility in Melbourne.

Rod Reynolds **VK3AAR** (**VK7ZAR**)

Note: All but a couple of the early issues of the **EEB** can be downloaded in annual PDF files from www.rochester-engineering.com/EEB



Spotlight on SWLing

Robin L Harwood VK7RH

e vk7rh@wia.org.au

On January 31st, Radio Australia drastically cut its output by ending transmissions directed to Asia. Programming apparently will continue to the Pacific. Also the number of senders to be used has also been halved and I believe that only three will be used, all from Shepparton in Victoria. The relays from Singapore and Saipan have been axed and they have closed the sender at Brandon, near Townsville. It has certainly upset many long-term listeners, particularly in Asia and Europe. There now is a revised schedule as follows from 2100 till 0900 on 15240, 15415 and a new channel of 17840 and from 0900 till 2100 on 9580, 12065 and 12085.

It is worth noting that there is limited foreign language programming, primarily in Tok

Pisin, which is widely spoken in Melanesia. There is a short news bulletin in French between 0800 and 0805. They originally chose the 49 metre allocation from 0900 till 2100. East Asia is included on 15415 and 12065. Programming now consists of relays from either Radio National or JJJ. Why they relay the latter is beyond me!

There has also been speculation over the remaining DW relay site in Kigali in Rwanda: The former German shortwave station only has programming in English and French for African audiences. 2017 has been mentioned as the possible date for Kigali to be phased out. Incidentally Rwanda is quite advanced as far as the Internet speeds and penetration, compared to its African neighbours.

There is a new government in Greece and it may see the re-introduction of the ERT network. Apparently unionists kept the shortwave station operational, relaying rebel programming. I have heard Greece so clearly on 9420 kHz for many decades but they occasionally can pop up on 9415.

Don't forget with the introduction of daylight saving in Europe on 28th March, the A-15 period commences as from 0100 UTC. North America changes their clocks earlier in March and we turn our clocks back on 5th April, which is Easter Sunday.

If you have any news or comments, feel free to email me at vk7rh@wia.org.au



Those wishing to present at this year's conference should contact the Chair as soon as possible:

vk3pf@wia.org.au

Peter VK3PF

Conference Chair

The annual GippsTech conference is coming. GippsTech has a reputation as a premier amateur radio technical conference. It focusses primarily on techniques applicable in the VHF, UHF and microwave bands, especially for weak-signal contacts.

GippsTech 2015 will be happening on the weekend of the 11th and 12th of July, at Federation University Australia Gippsland Campus in Churchill, Victoria, about 170 km east of Melbourne.

Call for papers

Anyone wishing to share information with others is invited to submit a title and brief summary of your planned presentation to the Conference Chair Peter VK3PF as soon as possible. Please be sure to indicate your expected length of presentation: it could be a short 10 minute item through to a detailed presentation of up to an hour.

We look forward to seeing you at GippsTech in early July.

Further details will be available from the Eastern Zone Amateur Radio Club website: <http://www.vk3bez.org/>



VK7news

Justin Giles-Clark VK7TW

e vk7tw@wia.org.au

w groups.yahoo.com/group/vk7regionalnews/

Congratulation to Rex for two world records in one week!

Firstly the 24 GHz EME world record and then the 10 GHz tropo-ducting contact across the Great Australian Bight completed on both digital and SSB.

SOTA in VK7 received a huge boost with Peter VK3PF touring around VK7. At the time of writing Peter had activated the Narawntapu, Mole Creek Karst and Mount Field National Parks along with Mt Arthur (VK7/NE-008), Legges Tor (VK7/NE-001), Mt Field East (VK7/WC-013) and Mt Wellington (VK7/SC-001) for SOTA. On the other end of many parks and summit to summit contacts with Peter was the author and son Reuben VK7FREU on Mt Wellington (VK7/SC-001), Mt Direction (VK7/SC-037), Herring Back (VK7/SC-009), Mt Styx (VK7/SC-005) and Mt Rumney (VK7/SC-045) completing the five summits in five day challenge. A huge thank you for all activators and chasers who contacted us during these weeks.

The night of the 31 January 2015 saw the inaugural VK7 SOTA dinner at the Cascade Hotel in South Hobart. It was a great social night with much SOTA related discussion over a good meal and drinks. Peter and the author brought along their SOTA packs and provided an impromptu show and tell of activation ideas after dinner.

Reminder that the Radio Amateurs Old Timers Club monthly broadcasts can be heard on the first Monday of each month at 8:30 pm on VK7 repeaters VK7RAA, RTC, RML, RCH, RAL, RAC and RWC.



Photo 1: Inaugural VK7 SOTA dinner attendees. (Photo courtesy of Justin VK7TW.)

Cradle Coast Amateur Radio Club

The Cradle Coast ARC reports that the site upgrade on Mt Duncan for the repeater VK7RMD is progressing well. The upgrade will include a weatherproof shed, new tower, solar panels and antennas. The tower, shed, solar panel frame,

solar panels, etc. are all ready for helicopter lift into position on the mountain. Watch this space!

Northern Tasmanian Amateur Radio Club

The Northern Tasmanian ARC report that six metres and the Barren Tier link are no longer active from the

Photo 2: Reuben VK7FREU on Mt Styx (VK7/SC-005). (Photo courtesy of Justin, VK7TW)





Photo 3: Peter VK3PF/7 showing his lightweight 2 m Yagi. (Photo courtesy of Justin VK7TW.)

VK7RAA site, as the antennas have been removed in preparation for construction of the new Air Services tower on Mt Barrow. Refurbishment of the CB repeater hut on Mt Arthur is progressing along with negotiations with the Parks and Wildlife Service on lease arrangements for the new VK7RAA repeater site.

Congratulations to Alvin VK7NDQ who successfully upgraded to Advanced and has

applied for VK7ADQ and Michael VK7FMRS who successfully upgraded to Standard and has applied for VK7MRS. Please listen out for them and give them a call.

Radio and Electronics Association of Southern Tasmania

Congratulations to five new Foundation licence holders: David, Pete, Klaas, Mathew and Shane

who all passed their assessment in mid-January. By the time this goes to print there will be five new Foundation calls on the air so, please welcome them then you hear them about.

We have had a fantastic start to the DATV Experimenter's nights with huge interest being shown in the presentation by Rex VK7MO on his two world records. We then had a presentation from Steve VK5SFA via Steve VK7OO from Southern Cross Television who donated a 100 W digital power amplifier. This will greatly increase the coverage of the DVB-T RF signal in Hobart with an increase in power from 15 W to an ultra-linear 100 W. A huge thank you goes to the Steves and the Southern Cross Network. The UTC year roll-over SOTA event was featured along with other activations and we walked outside to go home and Alan VK7KAJ pointed out an Aurora over Hobart – what a finish to that night!

Other DATV nights included water damage to coax, 1967 NDB CU8 Antenna Tuning Unit refurbishment, a homebrewed RS232 patching/analysing box and RedDot SWR/Power meters, thanks Alan. We also had a visit from the guys from the Hobart Hackerspace and we are organising an outside broadcast from the Hacker space in future and link from their New Town clubrooms up to the Queen's Domain via 1250 MHz then go out via DVB-T from the Queen's Domain.

Our final DATV night for January featured an interview with Peter Freeman VK3PF/7 in our newly remodelled DATV Studio. We have installed our remotely controlled cameras onto the back walls of the studio thus providing us with more room and we now have room for a studio audience to sit down in comfort and watch the show. Peter VK3PF/7 took us through his recent activations and his many other roles. Our video was Amateur Logic TV episodes and much material from the mighty Inter web.



VK3news Eastern & Mountain District Radio Club

Andrew Scott VK3BQ



EMDRC Hamfest 2015 – 29th March.

Preparations are well underway for the club's annual Hamfest Sunday March 29th at the Great Ryrie Primary School, Heathmont. Doors open at 10 am, and entry is only \$6 and includes a raffle ticket. We have a number of items for the raffle this year donated by our commercial traders. The raffle will be held at midday. Head to the club's website <http://www.emdrc.com.au/> for more details and look out for the club Hamfest Ad in this edition of AR Magazine for more information.

Summer VHF/UHF Field Day 2015

Following our very successful efforts in the Spring VHF/UHF Field day, with section victories for the VK3ER/p team, we set about getting ready for the Summer field day.

The supercomputers at the Bureau of Metrology were working overtime predicting a monsoon of rain, as the Summer Field Day loomed. One thing can be certain about the Summer VHF/UHF Field Days, if it is not predicted to be a raging bush fire then it will be flooding rains.

Regardless of the predicted weather, the team of VK3ER/p headed to our normal location with gumboots and raincoats and a small inflatable boat ready for anything. We headed to MacLauchlan's lookout in the wombat state forest 80 km west of Melbourne and set up our station. Friday afternoon



Photo 1: Mike VK3AVV, Jonas VK3VF, Jack VK3WWW, Andrew VK3BQ and Peter VK3QI, the VK3ER/P team.



Photo 2: Mike VK3AVV on 6 m, Peter VK3QI on the microwave bands, Jack VK3WWW on 2 m and Jonas VK3VF on 70 cm in the VK3ER/P operating tent.

saw constant rain showers that slowed the setup, but by Friday night we were all setup and ready to go. Mother Nature wasn't fully done with us and put on a very local lightning display that had us disconnecting antennas and wondering if we would attract a strike for a while before passing. Saturday morning we woke to a very low cloud base that kept the

site damp, but the predicted heavy rain stayed away from our location and come contest start time, we were ready to go.

Conditions on the higher bands were generally average with no real enhanced propagation over the weekend. We did make a number of successful 24 GHz contacts over the weekend as we and other stations in the district improve our

setups and better understand how this band operates. The star of the weekend was 50 MHz. The band was alive. Mike our 6 m operator still has a grin wider than the Yagi from all his contacts. Mike made many contacts into northern VK2 and VK4, and even some Double Hop E contacts west into VK6. We now await the results to see how 6 m assisted with our scores.

The majority of the rain held off over the weekend though the low cloud base ensured the tent was put away wet; we were all packed up and home in time for dinner Sunday night.

EMRDC Club News

Station evolution and refinement continues with some maintenance undertaken on the rotator systems after a small problem was discovered on one rotator over the weekend. We will be pointing in the right direction come the next event. The team is all set for the John

Moyle Field day in late March where we plan to head to a spot in the Greater Otways National park above Lorne. We look forward to many contacts.

VK3ER/EMDRC on Facebook

The club has an active and growing community of members and friends on Facebook. Keep up to date with club events and activates, see photos and videos as they happen, and best of all, you don't need to be a Facebook user to look, simply head to <http://www.facebook.com/VK3ER> and see for yourself.

Club Meetings

The club's normal meetings and now well underway for 2015. With our Monthly Main meeting, the first Friday of every month from 7:30 pm at the Willis room, Whitehorse Civic Centre in Nunawading. Each month has an interesting speaker who presents an interesting talk to the club.

Our Clubrooms underwent some major equipment and facility upgrades in 2014 and the Club HF station is now fully operational again. The fancy Pod coffee machine is primed, the drinks fridge stacked, the upstairs hall is heated and the workshop tools are oiled. We hold our clubroom meetings, the third Friday of every month from 7:30 pm at our Clubrooms, 13a McCubbin St Burwood.

Our regular Thursday morning Clubroom gathering is still going strong, every Thursday from 10 am, and it is often broadcast on VK3RTV ATV repeater. Most Saturdays the clubrooms are also open from 10 am, check in on the clubs repeater VK3REC 147.175+ to confirm a Saturday room opening. Visitors and guests are always welcome to all of our meetings. Address details and more information on the clubs website. <http://www.emdrc.com.au>
See you there.



AMSAT-VK

AMSAT Co-ordinator
Paul Paradigm VK2TXT
email: coordinator@amsat-vk.org

Group Moderator
Judy Williams VK2TJU
email: secretary@amsat-vk.org

Website:
www.amsat-vk.org

Group site:
group.amsat-vk.org

About AMSAT-VK

AMSAT-VK is a group of Australian amateur radio operators who share a common interest in building, launching and communicating with each other through non-commercial amateur radio satellites. Many of our members also have an interest in other space based communications, including listening to and communicating with the International Space Station, Earth-Moon-Earth (EME), monitoring weather (WX) satellites and other spacecraft. AMSAT-VK is the primary point of contact for those interested in becoming involved in amateur radio satellite operations. If you are interested in learning more about satellite operations or just wish to become a member of AMSAT-Australia, please see our website.

AMSAT-VK monthly net

Australian National Satellite net

The net takes place on the 2nd Tuesday of each month at 8.30 pm eastern time, that is 0930 Z or 1030 Z depending on daylight saving. Check-in starts 10 minutes prior to the start time. The AMSAT-VK net has been running for many years with the aim of allowing amateur radio operators who are operating or have an interest in working in the satellite mode, to make contact with others in order to share their experiences and to catch up on pertinent news. The format also facilitates other aspects like making 'skeds' and for a general 'off-bird' chat. In addition to the EchoLink conference, the net will also be available via RF on the following repeaters and links.

In New South Wales

VK2RBM Blue Mountains repeater on 147.050 MHz

In Queensland

VK4RIL Laidley repeater on 147.700 MHz

VK4RRC Redcliffe 146.925 MHz IRLP node 6404, EchoLink node 44666

In South Australia

VK5TRM, Loxton on 147.175 MHz

VK5RSC, Mt Terrible on 439.825 MHz IRLP node 6278, EchoLink node 399996

In Tasmania

VK7RTV Gawler 6 metre repeater 53.775 MHz IRLP node 6124

VK7RTV Gawler 2 metre repeater 146.775 MHz IRLP node 6616

In the Northern Territory

VK8MA Katherine 146.700 MHz FM

Operators may join the net via the above repeaters or by connecting to EchoLink on either the AMSAT or VK3JED conferences. Past experience has shown that the VK3JED server offers clearer audio. The net is also available via IRLP reflector number 9558. We are keen to have the net carried by other EchoLink or IRLP enabled repeaters and links in order to improve coverage. If you are interested in carrying our net on your system, please contact Paul via email. Frequencies and nodes can change without much notice. Details are put on the AMSAT-VK group site.

Become involved

Amateur satellite operating is one of the most interesting and rewarding modes in our hobby. The birds are relatively easy to access and require very little hardware investment to get started. You can gain access to the FM 'repeaters in the sky' with just a dual band handheld operating on 2 m and 70 cm. These easy-to-use and popular FM satellites will give hams national communications and handheld access into New Zealand at various times through the day and night. Currently only SO-50 is available.

Should you wish to join AMSAT-VK, details are available on the web site or sign-up at our group site as above. Membership is free and you will be made very welcome.

ALARA

Margaret Blight VK3FMAB – Publicity Officer

The Australian Ladies' Amateur Radio Association (Originally known as LARA and now as ALARA) was founded in July 1975, making this year the 40th Anniversary of that event. I have been browsing through some old copies of the ALARA newsletter and found the July 1985 edition which coincided with the tenth anniversary. The front page was decorated with the ALARA badge as was common at that time, but the ALARA symbol was wearing a perky party hat of bright green and below the symbol were a series of colourful balloons. This might not sound terribly exciting until you remember that in those days the newsletter was typed out on a stencil sheet then printed through a Gestetner machine. Very hands on. So the colourful front page was achieved by every copy of that edition being coloured in by hand. Quite an achievement when you think of the ease with which modern technology can manage the same effect.

For the 40th anniversary, there will be a special three course lunch held on Saturday 25th July, 2015, at the Novatel Hotel, Springvale Road in Glen Waverley, Victoria. It is hoped that there will be an enthusiastic response and a great number of members will join in the celebration. OMs will be cordially welcomed. To ensure a place please send a deposit of \$16.00 by April 30th 2015. The total cost will be \$56.00 p.p. President Jean VK3VIP can be contacted on jeanfisher@optusnet.com.au or phoned on 03 9801 3612 to make arrangements. She will also inform anyone wanting to make a long week-end stay of suitable accommodation close to the venue. The hotel is located very close to the railway station and near to a number of shops and numerous entertainment sites.

VK5 information – Christine VK5CTY

ALARA has gone all technical for the Monday night Nets. Since Marilyn VK5DMS (previously VK3DMS) has been in VK5 land she has struggled to join in the Monday night nets because her QTH has a very high noise level on all bands. A few of the regular YLs on the net can hear Marilyn directly but she can rarely hear them at all.



Photo 1: The front panel of the SDR.



Photo 2: The SDR plus the Mono to Stereo adapter.

Her OM Geoff VK5ACZ (formerly VK3ACZ) solved the problem by connecting to the 'websdr' in Melbourne, using software defined radios connected to the internet. It is available for anyone to access and can be tuned to the frequency required – even by several users simultaneously. Through her own computer Marilyn listens to the other stations then transmits directly.

The latest development is that Geoff has built an SDR radio (Softrock receiver) and, as an experiment, placed it at the nearby QTH of Wolfe VK5WF. The local signal was even better than the one from VK3-land. Typical of such experiments that evening all signals on 80 m were extremely good and even the noise level was down a bit!

I visited Marilyn and Geoff recently, so Geoff showed me the tiny box that has the SDR receiver in it. He has to attach a mono-to-stereo box to it.

News from VK3

An ALARA table was manned at the Rosebud Hamfest in November 2014. There were approximately 200 people attending.



Photo 3: The crowd at the Christmas 2014 event.

President Jean VK3VIP sold a number of pens and an ALARA badge. She also collected a number of subscriptions for the new year. A number of members came to the table for a chat including Rosa, who obtained her licence in Germany. Heidi VK3FHID made the trip down to Rosebud and was lucky enough to win herself a radio.

The ALARA Christmas lunch was well attended. Everyone enjoyed good food and entertainment. The lolly girl provided ice creams all around mid-way through the afternoon, however, there did seem to be something a little different about 'her' this year, perhaps the hairy legs were a giveaway.

Marlene ZL1MYL and her OM. Laurie ZL1ICU were welcome guests for the occasion. It was good to catch up as Marlene was unable to make it to Port Stevens for the ALARAMEET.

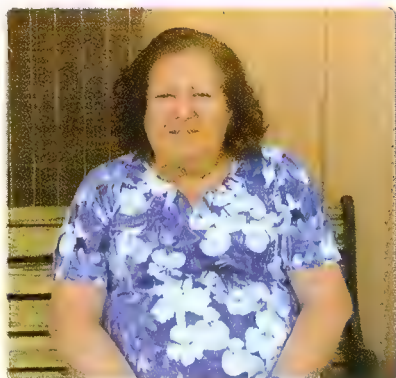


Photo 4: Marlene ZL1MYL

Silent Key

Elaine VK3EQY

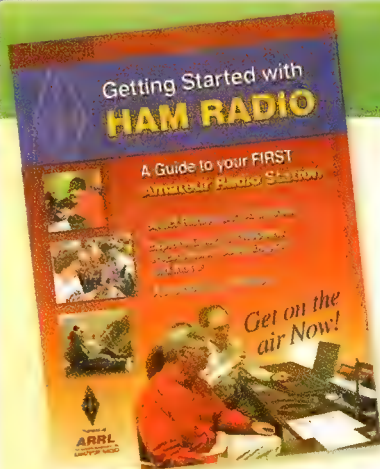


It was sad to learn of the passing of Elaine who was a regular participant at the VK3 lunches for a number of years. Her interest in radio developed at a very early age through an uncle who developed electronic gear in his workshop in Los Angeles USA. Elaine learned from him and became quite proficient making a crystal set, complete with galena and cat's whiskers. Uncle helped build a small shack in the garden. "It was fitted with a rack-mounted transmitter, complimented with a war surplus receiver. The antenna ran from a

mast on the roof running a long wire to a tree in the garden". Eventually after studying radio theory for the radio amateur examination, Elaine became one of the youngest "hams" in the country at approximately 14 years of age. "It was great fun to talk on the air and in those days we had long, detailed conversations, often but not exclusively technical."

After High School came tertiary studies at the University of California and later Berkeley. After working in England and a brief return to the USA, the family, now comprising a partner and two children, moved to Tasmania and settled in Hobart where they lived for 25 years. Elaine moved to Melbourne after the death of her partner and became a regular at the EMDRC radio meetings. (Details obtained from Elaine's own notes).

ALARA was represented at the funeral service by Jean VK3VIP and Margaret VK3FMAB in December, 2014.



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As I type this, the K1N Navassa DXpedition just hit the airwaves. Navassa Island is ranked number 2 on the Most Wanted DXCC list and it is the most anticipated operation of the year.

Day One of the operation started on 40 m CW. As the sun was slowly approaching the horizon, the K1N signal was getting stronger - from barely audible to solid S5. The pileup was thick and wide: a mixture of loud Europeans and North Americans. Of course, there was a bunch of hopeful and enthusiastic ZLs and VKs, randomly calling, trying to make it over the Pacific. Thirty minutes before the sunset, a first ZL2 made it, followed by big-gun VK7. That was surely a good sign! A moment later, my local chaser VK2PN, who like myself operates from a city-block, made it too.

At that point we all realized that the operator at K1N was not just chasing the strongest signals but trying to work DX as well. Surely enough, a few calls later I got my 'all-time new one #304'. That evening, on day 1, a number of VKs worked Navassa. Once again, it was that magic combination of skill, persistence and being at the right place at the right time that made all the difference.

I have no doubts that as the pileup thins down, many fellow VKs will work K1N. And for those who've missed it - well, it will be a long wait until someone goes there again.

DX tips from DX experts

Last month I emailed a few fellow DXers - operators who are considered serious chasers - to share their top DX tips.

Paul VK4MA was not only first

to respond, but his tips are really powerful. Actually, I immediately recognized my own 'weak point': spending too much time experimenting with SDR! As much as I love home brewing, which is without of doubt heaps of fun, indulging in projects that consume months of already limited time will not increase DXCC or IOTA totals.

So here are *Paul's top four tips*:

You cannot work the DX if you are not on air. Some spend too much time messing about with new SDRs, swapping between inefficient antennas and half the time they are not effectively 'on air' and miss the DX.

You cannot work the DX if you cannot hear the DX. Expensive radios add little here: decent antennas - height, gain and take off angle are the answers. These days, noise elimination is also an issue for those guys living in the city. Antenna height and gain will help with noise but identifying noise sources and taking corrective action will make all the difference.

You cannot work the DX if the DX cannot hear you - having a strong signal is your objective - not having the most expensive / fancy radio sitting on the bench. When you are on air, the DX (and everyone else for that matter) does not care how expensive your radio is. When I tune around on 20 metres I distinguish signals on the basis of "he is loud", "he is weak", not "he is using a \$10k radio" or "he is using a \$500 radio".

You can only work the DX when propagation allows you to work the DX - this is just experience - but know where the DX is located and the best time to work the DX on a given band. We are all short of time

these days, so this knowledge is important not just for making sure you will have the best propagational chance but also so you don't waste time on air trying to work the DX when it is not really likely to happen.

On the air

4U1WB appeared on the air mid-January, 15 m SSB. I got really excited thinking that this one could count as UN Headquarters, a 'new one' for me.

As it turns out, that call sign belongs to the radio club of the World Bank in Washington DC, USA. As such, it only counts as a plain-vanilla W3. Nevertheless, it was a nice catch.

By the way, the World Bank is actually called the International Bank for Reconstruction and Development and is not really a bank in the ordinary sense but a unique partnership set up in 1944 to reduce poverty and support development. The ultimate goal is to end extreme poverty by decreasing the percentage of people living on less than \$1.25 a day. Good guys for sure - but if you've worked 4U1WB then please do not send QSLs to the World Bank address but to KK4HD.

TC100GLB is a special Turkish call sign commemorating 100 years of the Battle of Gallipoli. The station will be active until the end of April 2015. QSL via TA1CM.

YB3MM/8 was active from Pulau Sailusa Besar in the Tengah Islands group, IOTA OC-247. Adhi was on air for four days at the end of January. Unfortunately this operation is a bit controversial. Apparently, it took place with no written permit to land and operate. This was pointed out by members

of the Indonesian Amateur Radio Association ORARI, whose recommendation is required to obtain the permit. As always, 'work first, worry later': we'll leave it to the RSGB IOTA committee to untangle this one. The OC-247 is quite a rare island group, with only one previous activation, which took place back in 2001.

C98RF AF-061 Mozambique.

Dr. Reinhard was active in January 8-13 from Quirimba Island, Cabo Delgado District Group. Usually a short operation from an African IOTA generates rather large pileups, but this time many VKs made it into the log. Not only was C98RF loud via short path on both 20 and 30 m, but Reinhard was on air at times that favoured our direction.

EP6T Kish Island, Iran. The dust has finally settled over this highly anticipated activation from Kish Island. The Belgian team deserves full credit for making many chasers happy. It was a real pleasure to listen to them - often stopping the endless European pileup, calling specifically for VK/ZLs. Actually, on many occasions, once they've worked a VK station, they would try to work a few more, announcing exact receiving frequency and listening patiently. If every DXpedition to a rare one would be so kind to us, then DXing would be a piece of cake! What we didn't know at the time is that the local RFI level on all bands was almost unbearable. While the local population on the island is 20,000, Kish Island has a free trade zone status. It is touted as a consumer's paradise, with numerous malls, shopping centres, tourist attractions. About 1 million people visit the island annually. Definitely not your Pacific island no-RFI paradise!

The deliberate QRM was another story. Sadly, some radio amateurs find jamming and interfering thrill-seeking. What a meaningless activity! Most importantly, the expedition generated a significant amount of interest both with local

media and Iranian communication authorities, and the EP6T team were true ambassadors of amateur radio.

Ten out of ten, well done.

1A0C is the call sign of The Order of Malta's Italian Relief Corps (CISOM) radio station. Infrequently active, it is still wanted by many casual and low power chasers worldwide. The group of Spanish and Italian operators were active from 1A0C from Christmas to early January. No major drama getting into the log - the gang made just over 60k QSOs in just a few days. A remarkable achievement, especially taking in consideration the limited real-estate for a multi-band antenna setup. A good way to kick-start 2015 with a semi-rare DX.

TZ6BB, Bamako. Fernando, EA4BB went QRT on January 26 after three years of operating from Mali. It was a real pleasure to log him just days before he closed down. Many VKs had fun working him on 20 m during late afternoons, especially on CW. Fernando said that his love for amateur radio originated from his love for communication and foreign affairs. He admits that he had "quite a naughty start".

Here is his confession:

"When I was a kid, payphones in Spain worked in a peculiar way: You could initiate a call without actually putting any money in the phone. For a few seconds you would hear the voice at the other end saying 'Hello?... Hello?...' and then the communication would end unless you put a coin in the slot. I didn't really have too many coins at my disposal as a young child, but I had loads of imagination, and one of my favourite pastimes was making random international calls to exotic places, just for the thrill of hearing for a couple of seconds a voice from far away. All International Dialling Prefixes and area codes for the main cities were printed on a colourful chart conveniently fixed inside the booth, something I found of course very educational. I must have 'worked', as radio operator

say, quite a few countries that way and I probably made some people wake up in the middle of the night in time zones far apart from that of Spain. No harm meant, just a 7 or 8-year-old boy in Madrid having a bit of fun."

TZ6BB will be missed, like many of Nando's previous African calls: Z21BB, ST2BF, D2BB, TU5JL, 9Q5BB... We wish him all the best and we are looking forward to another activation from some exotic place in Africa.

C5X, Gambia. According to their own admission, a group of UK amateurs executed a "fly-in, fly-out operation with the emphasis on fun". For nine days, G3XTT & co. operated with 2 stations from Bungalow Beach Hotel at Kotu, in the Serrakunda district of Gambia on a North-West facing site, close to the Atlantic Ocean. Not terribly strong here, but with good ears, so easily workable on 30 m and 20 m. Don't despair if you've missed them: Andre C5YK is very active from Bijilo on both CW and phone.

Your feedback: In the log!

Vatican City is a landlocked sovereign city-state whose territory consists of a walled enclave within the city of Rome, Italy. It has an area of approximately 110 acres, and a population of around 840. This makes Vatican City the smallest internationally recognized independent state in the world by both area and population. Luckily for us, the DX chasers, Vatican has its own radio club: HV0A.

The antenna system consists of 3-el SteppIR but there are no permanent low band antennas. That - fortunately - didn't stop a couple of Italian operators to participate in a 160 m contest. They temporarily erected an Inverted V antenna at the club location. Little did they know that by doing so, they will make at a least couple of Australian amateurs happy. As VK4MA reports, he did make a very memorable contact last week:

"A small team were operational from HV0A, the Vatican on the weekend of 24-25 Jan. The Vatican is tough to work on any band and after 35 years of activity I still needed it on 30 metres, for instance. The HV0A station is located right in the heart of Rome and St Peters can be seen from the roof of the shack (put HV0A into YouTube). There is little space for antennas, the noise level is very high and activity from the club only occurs a few days per year. In this context, the likelihood of working HV on 160 metres was something I always considered impossible. But, on the morning of the 25th, HV0A peaked sufficiently right on my sunrise for me to make a 160 m QSO with them in the 160 m CW contest. I think that VK3IO may have got through to them as well. I also worked them pretty easily for a new one on 30 metres -much easier QSO. I was disappointed in missing EP6T on 160 but happily swapped it for the HV0A QSO!" [VK4MA]

Australian Islands on the Air: VK3

While Australian amateurs have been on the air waves for over a century, even a modestly equipped VK station will generate a fair bit of interest. Often, it just takes a couple of CQs, and dead band will come alive with callers. A special event

call sign – like VK16AC ‘celebrating’ the Asian Cup Games, which I had an opportunity to host for 3 hours– has generated significant interest. Thanks to VK3FY and South Pacific Contest Club for such an enjoyable event!

So one can only imagine the size of the pileup which is generated by any VK IOTA activity. It is really simple: if you wish to have some serious fun on air, then pack your gear and go to an island. Not only will you be richer for a very unique experience, but you will also make many chasers happy.

Last month we talked about VK2 island groups which count for the IOTA award. Now our focus is on three Victorian groups.

The ‘easiest one’ from an access point of view is definitely the OC-136 which includes **Phillip Island**. Over the years, a number of operators ‘activated’ this group and 14 of them are recognized by the IOTA committee. Yet despite a number of activations, over 75% of chasers worldwide still need OC-136 as a new one!

OC-196 on the East coast has been activated 4 times in the past three decades, all from the picturesque **Gabo Island**. Gabo offers a unique accommodation experience: stay in the Assistant Light Keeper’s residence, which

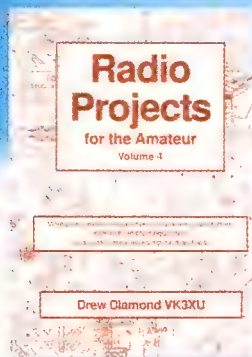
features three bedrooms, a fully equipped kitchen, laundry and bathroom with all linen provided. Bookings are required for a minimum of two nights and accommodation is available for up to eight people. You may need a permit to operate (consult Parks Victoria for details) but rest assured, this IOTA Dxpedition will make you the talk of the town.

Now, if you are up to a real challenge then try to get your foot (and antenna!) on OC-251: **Lady Julia Percy Island**. Access to Lady Julia Percy Island itself is restricted, and landing is by permit only. Peter VK3QI and three other operators operated from there in September 2002 as VI3JPI. This was the first and only activation of Victoria State West group. Surely OC-251 is long overdue for a re-visit. However, this is not an easy one and long term planning (including helicopter transport!) will challenge your organizational skills and patience. The reward is guaranteed: an endless queue of hungry chasers.

And this is precisely why we love our IOTA activations: they offer something for everyone, regardless of the operator’s skill level, equipment and budget.

Be brave, give it a go – it’s worth it.
CU on the air,
Nick

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Rob VK2QR crossing the Murrumbidgee River en route to an activation. He is keen, even carrying waders on this activation!

VK2QR achieves Goathood

A big congratulation goes out to Rob VK2QR. Rob has achieved Mountain Goat status in just over 11 months. This is a staggering pace. Working through the high country from VK1 through VK2 and VK3 Rob is setting the standard for high value activations. By posting alerts on SOTAwatch then managing the resulting pileups in an orderly and efficient manner Rob has generated a huge following. We are looking forward to many more contacts as Rob continues his travels along the high country setting a pace few can answer.

Goats and Sloths

Some statistics for you – in 2012 there were 19 Activators and 42 Chasers logging their activities on SOTAdata. When this article was being written in late January 2015

there were 165 Activators and 245 Chasers. This includes 5 Mountain Goats and 65 Shack Sloths (of whom three are Super Sloths with over 10,000 chaser points). Well done all.

VK5 fire destroys popular SOTA spot.

Fires have placed some areas out of reach with Mt Gawler (VK5/SE-013) in particular being impacted. For pictures of the extent and impact of the SA Fire checkout:
VK5PAS: <https://vk5pas.wordpress.com/2015/01/03/update-on-fire/>
VK5FO: <http://vk5fo.com/date/2015/01>

SOTA comes to the aid of other bush users

Whilst retuning from activating VK3/VC-008 (Hyde Hill) Tony VK3CAT saw a huge black plume appear

from the road in front of him. First thought was fire, and then car crash. It turned out to be the latter: a RAV 4 had hit the skids on a corner and was now on its roof.

With phone service not available, Tony was able to contact emergency services via HF with Mike VK3XL and David VK7DC both responding. Tony provided first aid until the emergency services arrived. No serious injuries occurred, but the incident provides a reminder to stay safe in the bush and drive carefully.

New Year activity

Whilst information regarding the large number of contacts made by Activators was included in last month's edition of AR, more details of activities are now available for all to read. To recap, New Year's

Day saw many SOTA devotees out on summits at a very special time in the VK SOTA calendar. The UTC year roll-over means we can double the chaser, activator and summit to summit points over a couple of hours. With daylight saving still active, the UTC rollover is 1100 am EADST. Alerts published on SOTAwatch late in December 2014 had given an indication that activators were planning to visit summits on the morning of 1st January 2015 to take advantage of the time zone and New Year rollover. This was not a planned activity, but it promised to be a busy day and delivered.

Prior to 0000 UTC each activator was keen to score as many S2S points as possible, so many chasers probably missed out on contacts during this period. Each activator CQ call was greeted with several S2S requests and priority was given to S2S contacts. It was frantic for a couple of hours running up to UTC on the 40 m band with activators all the way up to 7.170. This was the only way to provide the bandwidth. Not just 40 m was in use, 20 m for DX as well as 6 m and 10 m. Several summits were activated by different activators during the course of the day. There was 1400 QSOs post-UTC recorded for 37 activators.

Overall, it was a great day for SOTA operation. To read accounts of the New Year rollover checkout:

VK1DI: <http://vk1da.net/blog/2015/01/04/sota-feeding-frenzy-1st-jan-2015/>

VK2IO: <http://vk2io.wordpress.com/2015/01/04/day-long-sota-activation-for-new-year-2015/>

VK3BQ: <http://www.vk3bq.com/2015/01/06/sota-activations-new-years-2015/>

VK3HRA: <http://vk3hra.wordpress.com/2015/01/02/2015-new-year-activations/>

VK3PF: <http://vk3pf.wordpress.com/2015/01/01/bogong-high-plains-and-the-new-years-day-rollover/>

VK3YY: <http://vk3yy.wordpress.com/2015/01/04/sota-new-year-rollover-2014-2015/>

VK7TW: <http://vk7tw.wordpress.com/2015/01/03/vk7sc-003-004-mt-marian-and-trestle-mountain-new-years-rollover-2014-2015/>

AX callsign

The special event prefix of AX can be substituted for VK on occasions of national significance including ANZAC day and Australia Day. Use of a special event callsign attracts additional attention from chasers and DX alike.

On Australia Day, 17 activators accounted for 20 activations with many using the special prefix. Many are looking forward to using the AX prefix again on ANZAC Day.

Spotting of activations

Whilst SOTA activations only requires four contacts for the activator to qualify, many of the National Park activations are now trying to reach the 44 QSO threshold for the WWFF global awards. So any contact is precious. The spotting of activators by chasers is becoming an essential part of the activity.

ParksnPeaks (<http://www.parksnpeaks.org/>) is a web site designed to support SOTA and Portable operations (Disclaimer below). This site includes a spotting and alert facility for VK SOTA, Parks, QRP Activators and Chasers/Hunters.

The web site has been recently upgraded with enhanced WWFF parks identification and now an audible tone to alert you when someone has been 'spotted'. The alert is will be either a Goat for a SOTA activation or a Kookaburra for a parks activation. So now, if you're in the shack, and you are "logged in" to ParksnPeaks, and an activator is spotted, you will hear the audible alert.

Instructions are on the site on use of the available features. You will need an account to spot activity. Account creation is quick, simple and no cost. I will encourage all to create an account and spot activity to help chasers and activators alike achieve their goals.

Access the site: <http://www.parksnpeaks.org>

How to create an account: <http://www.parksnpeaks.org/ParksnPeaksACC.php>

How to place a SPOT: <http://www.parksnpeaks.org/ParksnPeaksSpot.php>

Disclaimer: The *ParksnPeaks.org* site is owned and operated by myself Allen VK3HRA. It is non-profit site and no user information is shared. It has been setup and is maintained to support SOTA and Park activations.

Finally, make a note in your diary... both VK3 and VK7 have Labour Day weekend over 7-9 March, so listen out for activations as plans are currently being formulated for multiple day activations.



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VHF/UHF - An Expanding World

David Smith VK3HZ

✉ vk3hz@wia.org.au

Early January produced some good propagation and contacts across the Bight, not the least of which was the new 10 GHz World Record contact, already reported last month.

On the morning of January 5th, the VK6RST 2 m beacon in Albany was heard weakly by a number of VK3 stations – the furthest being Jim VK3II at 2415 km. Rob VK6LD's portable station in Albany got a workout on 2 m working a number of VK3 stations.

The next morning – January 6th – at about 2100Z, Ian VK3AXH reported hearing VK6RST at 5x7 with lots of QSB, later peaking to 5x9. He worked Rob VK6LD/P on 70 cm with a 5x7 report – a distance of 2340 km. That evening, Mark VK6BSA, to the east of Esperance, worked Colin VK5DK in Mt Gambier on 70 cm. Colin's IC-910H was playing up and not indicating any output. Nevertheless, he received a 4x1 report from Mark. After some quick repairs coaxing some output from the radio, he was up to 5x7.

144MHz and Above activity from Mt Gambier

Colin VK5DK has kindly submitted this piece about his recent activities: *Activity on 144MHz and above since the early part of December 2014 has been reasonable with some very good contacts being made.*

Most mornings at 0800 CST time Robin VK5TN, Gary VK5JR and myself VK5DK have a regular contact with Gordon VK3EJ on 144.100 MHz. This is a 480 km distance contact which is quite regularly enhanced by aircraft on their descent into Tullamarine

airport. Signals are usually quite good and with aircraft enhancement are up to 5/9 on a regular basis.

Also regular contacts are had with Jim VK3II and Ian VK3AXH when beaming in the Melbourne direction.

On the 19th December, I was able to work Rob VK6LD/R on 144 MHz with his remote station in Albany. Rob has set up this station which he remotely operates from his Perth QTH. Rob also can operate on 432MHz with this setup.

On the 23rd of December, there was a Sporadic E 144 MHz opening to Rockhampton area from Mt Gambier with a contact to Ray VK4BLK and at the same time Adelaide stations were working into the Brisbane area. This has been the only Sporadic E opening on 144 MHz that has happened this DX season that I am aware of to date.

There was a good opening to the east from Mt Gambier on the morning of 31st December (30th Dec UTC) with several Gippsland stations being worked as well as the 432 MHz, 1296 MHz and 2403 MHz VK3RGI Beacons being very strong into Mt Gambier.

On the 4th of January 2015, conditions were good with contacts to Ralph VK3WRE and Jim VK3ZYC in Gippsland, followed the next day by good signals to the west with contacts to Mark VK6BSA near Esperance and Rob VK6LD/R from his remote station in Albany.

At this time, Owen VK5HOS and myself (VK5DK) decided to go to Mt Burr (highest location in the S.E.) to attempt a contact with David VK5KK on 10 GHz and 24 GHz with success on 10 GHz over the 360 km path, but no signals detected on 24 GHz.

It was during our QSO on 10 GHz that David VK5KK advised that Rex VK7MO/p was having a successful Digital QSO with Derek VK6DZ/p on 10 GHz and later an SSB contact for a new World 10 GHz record. Congratulations Rex and Derek. When I turned my 10 GHz dish to the West I could quite easily hear the WSJT tones on 10368.225 MHz from Derek VK6DZ/P although he was beaming some distance to the south of our location. I advised David VK5KK of this who in turn passed a message via the VK Logger to Derek VK6DZ/p. Derek turned his 10 GHz dish towards my location and a very easy two way SSB contact was completed over a distance of 2066 km, which is a new VK5/VK6 10GHz State record. Signals were 5 x 7 at my location and 5 x 2 at Derek's location.

Also that evening, with conditions still favourable to the west, VK6BSA was worked on 144 MHz plus VK6LD/R being contacted on both 144 MHz and 432 MHz SSB. Conditions were still very good the next evening with VK6BSA, VK6VOX and VK6NB being worked with VK6BSA being contacted as well on 432 MHz.

Conditions have not been as good over the past couple of weeks although the Hepburn Charts suggest conditions may improve in the next few days (early February).

One thing Colin didn't mention is that Derek VK6DZ/p was using 70 cm as a liaison for the 10 GHz contacts. Signals were extremely strong on 70 cm. After the 10 GHz contact, Colin switched off the transverter and disconnected the FT-817 IF radio. However, he

then heard WSJT tones coming from the FT-817 – with no antenna connected. It turned out to be Derek working Rex VK7MO on 70 cm!

VK7RAE Beacons now GPS-Locked

Thanks to a lot of hard work by Joe VK7JG, the VK7RAE 6 m, 2 m, 70 cm and 23 cm beacons located on Don Hill near Devonport are now all GPS-locked. The beacons key once per minute with callsign and grid square. As before, the 70 cm beacon when “keyed down” runs dits instead of continuous carrier so that a nearby garage door can still be operated with its 433 MHz Remote Control.

For technical reasons, the 2 m, 70 cm and 23 cm beacons are not precisely on the nominated xxx.474 frequency. However, the difference is less than 10 Hz. The actual frequencies are the subject of an FMT (Frequency Measurement Test) challenge, currently running on the VK Logger.

Please have a listen for the beacons and give your best estimate of the actual frequencies, which will also provide Joe with feedback on coverage.

Please send any Weak Signal reports to David VK3HZ at vk3hz@wia.org.au



Digital DX Modes

Rex Moncur
VK7MO

24 GHz EME World Record Extended

On 31 December 2014, Rex, VK7MO, extended the World 24 GHz EME record to 17464 km with G3WDG. On the same date VK7MO also extended the Czech Republic 24 GHz EME distance record to 16438 km with OK1KIR.

The key issue in operating at long distances for 24 GHz EME

is the loss due to water vapour absorption. In the case of long distances both stations must beam close to the horizon and thus the signal goes through much more water vapour. For the previous World Record VK7MO operated from Mount Wellington at 1270 metres to reduce the amount of atmosphere through which the signal propagated and thus the losses due to water vapour. In order to increase the distance it was necessary to go further South-East to Tasman Peninsular where there are no high mountains and thus absorption losses were increased by around 2 dB. This additional loss was overcome by both stations phasing up two of the 10 watt PAs they previously used to achieve around 20 watts. The result was about 1 dB improvement which allowed relatively easy QSOs compared to the earlier QSO from Mount Wellington. A more detailed report is at:

http://www.ok2kkw.com/next/vk7mo/24ghz_tests_vk7mo_ok1kir_g3wdg.pdf

Please send any Digital DX Modes reports to Rex VK7MO at rmoncur@bigpond.net.au

Meteor Scatter

Dr Kevin Johnston VK4UH

Achieving and Surviving your first M/S contact

Over the recent Christmas holiday it was good to see a number of new callsigns appearing on the activity sessions. Since the “learning curve” can be quite steep and indeed daunting at the start I thought it might be helpful to go back and run through some basic information and tips about MS operation with the hope of encouraging others to give it a try. This is not intended to be a comprehensive M/S operating manual, just enough information to get going and survive that first Meteor Scatter contact. In this context I will be talking about

FSK441 digital M/S operating on 144 MHz.

Firstly – Why Bother? Meteor Scatter propagation will allow contacts to be easily made on 144 MHz out to distances of about 2300 km, way beyond the normal range on 2 m except under the most exceptional conditions. QSOs are possible therefore between the eastern and southern state capital cities and across to ZL. QSOs can be achieved on almost any day of the week under flat-band conditions.

So what’s needed? The basic entry-level setup is already to be found in many modest 2 m SSB stations. Almost any basic transceiver running about 50 watts or more will suffice. GPS frequency locking is not required, “ordinary” frequency accuracy and stability is adequate. FSK441 mode is designed to allow for a degree of Doppler shift of signals and can decode signals even 200-300 Hz off-frequency (which would render an SSB signal completely unintelligible). Even operating SSB, most operators will recognise a small frequency offset between their rigs and the stations they are working. It’s easy with a little practice to compensate for this in each particular radio. For an antenna, a 6-8 element Yagi beam above 10 m in height is close to ideal. Antenna elevation control is not required; most signals will be received at low angles. Masthead pre-amplifiers are not required either. Unlike EME communication, signals received by M/S are frequently loud, well above the noise floor and are easily heard in the loudspeaker. Received pings are generally strong, they are just very brief. While it is possible to achieve contacts with lower power or even with vertical antennas this is going to be hard and frustrating work at both ends of the QSO.

On the digital side, any station already set up to run any of the computer generated modes will likely already have all the hardware

required. These including WSPR, JT65, PSK31, SSTV, RTTY, packet etc. The computing power required to run FSK441 is very modest and easily achievable by most desk or laptops, with just about any OS likely to be still in use. In common with most computer-generated digital modes, FSK441/WSJT is based around audio signals generated and decoded in the computer being transmitted and received via the normal microphone/earphone path of an ordinary SSB transceiver, using only the normal SSB voice bandwidth. As with the other digital modes, some form of interface is required to transfer the audio in and out between the transceiver and computer at an appropriate level and without interference from RF, mains hum or other sources. Also, the interface has to allow the computer to operate the PTT of the transceiver during transmission. For stations not already set up for digital operation, there are many homebrew and commercially available solutions including off-the-shelf options including the Signalink and Rigblaster modules.

Software

The WSJT suite of software, written by Prof. Joe Taylor K1JT, is available off the net and free of charge for amateur use. It may be found at <http://physics.princeton.edu/pulsar/k1jt/> In general it has proven easy to install and run. It is worth downloading and printing out the comprehensive user manuals for the various modes for future reference, from the same site. Take the time to print out and read the instructions about configuring the software to arrange the audio in and out paths and levels and the PTT control. In my own experience, using the Signalink type interfaces, which are effectively outboard USB soundcards in their own right, the software configured itself with no user input at all. The only catch was setting the right playback level (to maximum) in the audio mixer

panel on the computer to allow the PTT to operate. It is worth taking the time to familiarise yourself with the various screens and on-screen controls. For most digital modes it is usually possible to try everything out with a local station while you find your way around the various software and hardware. This may not work with FSK441 and it is common to decode either garbage or nothing at all on strong constant signals. Bear in mind, FSK441 was designed to decode short bursts of signal and it frequently performs very poorly on local stations.

Next you will need a basic understanding of how a Meteor Scatter QSO runs, what exchanges will occur and what the reports used in FSK441 mean.

The exchanges

As with any other mode, most FSK441 M/S QSOs will start with a CQ:

CQ VK4UH

i.e. the string (the transmitted message) "CQ VK4UH" is typed in and is transmitted for 30 seconds out of each minute and will continue for as long as necessary for someone to respond.

To be clear the " " symbols are not typed in the string, They are just here in this article to show the format. When the CQ is received by a distant station, say VK1ABC, he would respond by transmitting:

VK4UH/26 VK1ABC

The report 26 (see Reports below) is separated from the destination callsign by the "/" symbol and no spaces. This clearly defines the report 26 as being intended for VK4UH. The callsign of the transmitting station always has a "space" at either end for clarity. This string is again transmitted for 30 seconds out of every minute until it is received.

When decoded by VK4UH, the string would be changed to:

VK1ABC/R26 VK4UH

Again the callsign of the transmitting station, now VK4UH, has a space at either end for clarity and VK1ABC is being sent the report R26 – separated by the "/" symbol. "R" in this context means "Roger – I have received my report- and my report to you is also "26". The report 26 is the equivalent of 5/9 on SSB and is the commonest exchange. This is certainly what you will use as a new user. Again this string is transmitted for as long as necessary until it is received by VK1ABC.

When decoded by VK1ABC, his string would be changed to:

VK4UH/RRR VK1ABC

The same format confirms who is transmitting. "RRR" (Roger Roger Roger) indicates that all required information has been exchanged i.e. both callsigns and reports in both directions. When the RRR string is decoded by VK1ABC the QSO is actually complete. However VK4UH cannot know that and would keep on transmitting the previous report. Once RRR is received by VK1ABC he would then, as a courtesy, change his string to:

VK4UH/73 VK1ABC

When VK4UH sees his 73 report he would go back to CQ or to call another station.

The Report

FSK441 M/S reports consist of a two digit number.

The first digit indicates the length or duration of the ping received:

- | | |
|---|---------------|
| 0 | <40 ms |
| 1 | 40 – 100 ms |
| 2 | 100 – 1000 ms |
| 3 | >1000 ms |

The second digit indicates the signal strength:

- | | |
|---|-------------------------|
| 6 | 0 – 10 dB (above noise) |
| 7 | 11 – 16 dB |
| 8 | 17 – 22 dB |
| 9 | >22 dB |

WSJT Setup Screen.

As above "26" is the commonest report used and "26 and 27" will account for virtually all reports. Pings with a duration of less than 100ms (i.e. 0 or 1) rarely give complete decodes.

To make this QSO process simple, the WSJT programme provides six pre-populated transmitting fields (Tx1 to Tx6) on the main operating screen. These contain all of the usual steps for both sides of a QSO. Each individual operator needs only to alternate down the steps, his starting point determined by which station called CQ. The callsign of the station to be called can be manually entered in the "To Radio" box or this will happen automatically if the cursor is clicked over a "clear" callsign on the received data screen. Once the callsign is in the "To radio" the messages are populated by pressing the "GenStdMsgs" (Generate Standard Messages) box.

The report protocol used by VK stations is slightly different (and improved) compared to that used in some other countries. Once you have the WSJT programme installed and running for the first time, it is recommended that the VK protocol be adopted by modifying the OPTIONS screen. Click "Setup" in the pulldown menu.

It will be necessary to insert your own callsign and grid square into "Station Parameters" and it may be necessary to alter the audio and PTT parameters depending on the interface in use. Then update the message templates for TX 1 to TX 6 to match those in Fig 1 below. Ensure that the transcription is exactly as written, especially the positions of the spaces etc. These settings are then held indefinitely.

The When and Where and the Timing – the last few jigsaw puzzle pieces!

Meteor Scatter can be used at any time. However in VK there are two regular weekend activity periods on 144 MHz. These are where most new operators will achieve their first QSO.

The activity periods run early in the mornings on Saturday and Sunday between 0700 and 0800 am NSW/Vic clock times (2000 and 2100 UTC in summer) when Meteor activity is most conducive to good propagation. Activity often starts from 1900 in the summer months as the northern states are already well past dawn by 2000.

The primary M/S operating frequency in VK and ZL is 144.230 MHz with the radio set to USB. To get going, FSK441 is selected from the "Mode" box in the pull-down

menu. Start with "S" (sensitivity) parameter set at 2 and the "Tol" (tolerance) set at 400. "S" can be set from -9 to +9. The lower the setting, the more on-screen garbage will be seen; higher settings reduce this problem but also block decoding of weaker pings.

Background noise should be seen on the horizontal waterfall display on SpecJT screen and the level bargraph showing around 0 dB on background noise. If not, adjust levels appropriately and ensure the "Monitor" bar is on. It is good practice to receive only for the first few complete periods. Received pings are usually clearly heard in the loudspeaker and appear as a coloured area on the SpecJT screen. The software will automatically attempt to decode on received pings at the end of each receiving period. Decodes can be forced on-the-fly however at any time, by clicking the left mouse button with the cursor placed over the ping on the SpecJT screen. Multiple decodes can be attempted if required changing the "S" setting find the best level for your own system.

Which Period for Transmission?

Each minute is divided into two transmitting periods. The First Period runs from the top of the minute (0 seconds) until 30 seconds. The Second Period then runs from 30 seconds back up to 60 seconds. This is selected by the operator by checking (ticking) the "TX First" box on the main WSJT screen. Clearly two stations must be transmitting in the opposite periods in order to hear one another and achieve a QSO. To make this work properly the computer clocks at either end of the QSO must be accurately set to within a second or two of each other. There are many ways this can be achieved, the easiest of which is by the use of Internet time servers. There are many applications to achieve this, some automatic, or just a manual

time-sync by the operator every 30 minutes or so. This needs to be practiced and confirmed in advance of appearing on the activity sessions. If not correct, then you risk transmitting when your close neighbours are trying to receive and this "isn't popular".

During the normal weekend activity sessions, a convention has evolved in VK to determine the appropriate operating period. Northern stations, i.e. VK4, always transmit 2nd Period and beam south. Southern stations i.e. VK3 and VK5 always transmit 1st Period and beam north. Stations in the middle i.e. VK2 and VK1 change period depending on the day. On Saturday mornings they will operate 2nd Period and will beam south to work into VK3 and VK5 etc. On Sundays they operate 1st Period and beam north to work into VK4.

Obviously where two stations are in range of each other by tropospheric or other propagation modes, then they must be transmitting in the same period otherwise they will cause QRM to each other. This can be a problem for stations operating away from the major capital cities and towards state border lines. In such circumstances, the usual Call-Area protocols may have to be reversed. It is best to seek advice from a local and follow what they do. As a general rule when you start out, you should not be hearing loud continuous FSK441 signals while you are receiving. If you can then something is wrong, most likely you are transmitting in the wrong period. Loud signals at the beginning or end of a period suggest that either you or a station local to you have clock timing issues. Remember you will potentially be sharing the single operating frequency with several other operators. Good operating practice requires us all to do everything possible avoid interference to other stations.

Bear in mind also that when your system is live, any audio from your computer that you would

normally hear in the speakers will key the transmitter and will go to air. During Meteor Scatter activity periods there will be many stations operating on the same frequency, some distant and some local. Any audio unintentionally transmitted out of turn or in the wrong period will deafen you neighbours. Take the time to disable all other computer sounds in the mixer panel and switch off applications such as e-mail or VK-Logger notifications, iTunes and Skype etc. which will otherwise go to air. Likewise, when operating any digital mode, ensure that the normal station microphone is closed otherwise shack sounds will also go to air during transmission and can corrupt the transmitted signal.

Where to point the antenna

In general you point your antenna in the direction of the stations you are trying to work. In reality however the meteor trails giving rise to pings we hear can occur over a wide arc extending on either side of the direct path. This phenomenon gives rise to two "hot-spots", one on either side of the direct beam heading. Depending on the time of day and season, one or other of the hot-spots statistically produces more reflections than the other. This can be the best direction to aim the antenna. The WSJT/FSK441 software provides information for optimum beam heading. When a callsign is placed in the "To radio" box and the "Lookup" button clicked, the software looks in a data base for the grid-square of that station. If the grid square is known then the software calculates the distance, azimuth and the likely elevation of the direct path from your station. In addition the software also indicates which of the two Hotspots (A or B) and their corresponding azimuth (beam heading) is likely to be best at that time. Look for this on the main screen. If the grid square is not found in the data base then this can be added manually and saved for another occasion.

Checklist for the first QSO

Install the software, RT-M, set up the radio and interface and get it all working in advance. I recommend users monitor the outgoing "machine-gun" FSK441 audio. This helps you to recognise the incoming pings and frequency offsets etc.

Set up and test computer clock syncing. Insert your callsign and messages into "options".

Set the alarm clock for early and take coffee to the shack by 19:30 UTC for one of the weekend activity sessions. (Allow the rig time to warm up and the frequency to stabilise).

Select 144.230MHz USB mode. Point the beam. Connect to the VKLogger.

Run WSJT software and select FSK441 mode. Ensure "Monitor" is on. "AUTO" off at this stage.

Set basic parameters and audio levels as above. Background noise should be visible on the SpecJT screen, the level set to about 0 dB. Select the period you wish to operate. Check computer clock is synchronised.

Wait and be patient. Meteor pings come in random order. Sometimes there is nothing for several periods followed by multiple pings in the next. As you are not yet transmitting, you will be receiving both periods. Signals from any stations local to you will be heard for the whole of one period, remember you may not be able to decode these.

Listen now for "pings" in the other period. These will give a "Pzzzzit" sound in the speaker and will leave a coloured trace on SpecJT. Move the cursor onto the coloured area and click the mouse to force a decode. Decoded signals will appear in the text window. If you can identify the source callsign (space at each end) transfer this call to the "To radio" window. It doesn't matter if that station is already in QSO, you can call them. With experience it is possible to be working more than one station at a time – but just try one at a time

initially. When ready to transmit select "Auto on" and you are away!

If you are hearing pings but not getting decodes, then there are a number of possibilities. The sounds you are hearing may not be FSK441. Maybe static or birdies etc., just keep listening. You may be too far off frequency. In this case the pings will not sound like your transmitted signal and the "DF" indicated in the data screen may give you a clue. If both stations are exactly on the same frequency then DF=0. If the DF is above 200-300Hz on all the stations heard then decoding may become erratic. Rule of thumb if DF is indicating large negative values move your rig LF in frequency by this amount, if large positive DF values move HF by this amount, and try again. It is also worth checking too that your RIT or shift is not turned on.

Hopefully this will have given you enough background information and some advice on the common pitfalls of MS operation for you to confidently attempt your first M/S QSO. This was only intended to get started with this truly fascinating aspect of the hobby. Once you succeed with your first completed QSO you will probably be hooked!

A Strategy for managing poor conditions

There are days when conditions for Meteor Scatter communication make it hard going to complete even a single QSO. Days characterised by meteor returns being weak, short and infrequent. The Triple-Cripple. Days such as this make you wish you had stayed in bed for that "lie-in". Even under these poor conditions however there are things worth trying to improve the success rate. Consider the following strategies:

Making the Most of what you receive

Using the FSK441 mode, when conditions are good, it is possible to just sit back and let the computer

do all the work. At the end of each receive period the programme itself will identify pings of FSK441 signals, apply a red marker on the waterfall, and a decode appears in the receive text window. You could even do this with the speaker volume turned down! This however is never the way to get good results, particularly when conditions are poor. Firstly, left to its devices, the programme will only ever attempt to decode one, usually the loudest, ping from each period. Where there are multiple pings, even if loud, the remainder will be ignored. On weaker pings, the programme may not even identify them as FSK441 and again will ignore them. A far more effective way to operate, especially as conditions worsen, is to turn the speaker well up, turn the AGC off where possible and manually force decodes by mouse clicking on each and every ping heard. It will also improve success to have multiple attempts on weaker pings with different settings of the threshold "S" parameter. The range of possible "S" settings is from -9 to +9. Lower settings produce more on-screen garbage, higher settings will eventually prevent all decode attempts. Remember also that on longer burns from hyper-dense meteor trails, there may be signals from more than one station in each ping. It is worthwhile scrolling very carefully across these, forcing multiple decodes particularly at each end of the burn.

Be realistic – common sense works

It is neither possible nor necessary to have a perfect decode each time for every step of a QSO. We wouldn't require that on SSB or CW either. A degree of corruption of the received string can be accepted. A single character missed or corrupted can be accepted – just like on phone. E.g. "JK4UH/RRR VK3AMX". This is clearly a report to me with loss of certainty at the ends of the string as the meteor ping is fading. There is no JK prefix

and I am in the middle of working VK3AMZ – hence the RRR report. What about "\$%4UH/RRR VK*76". This too can be OK if I am only at the RRR stage with one station or I can identify the source of the report by another means. For example if VK3AMZ consistently has a "DF" frequency offset of 42 Hz on all previous pings and this partial string has the same frequency offset, this too is valid. Bear in mind that acceptable protocols in other modes, such as JT65 or CW EME, do not require callsigns at all for some steps of a QSO, only OOO, RO or RRR reports being transmitted. Remember too that the QSO is considered complete when the RRR report is received. The 73 is really just a courtesy to advise the sending station to stop sending RRR and to move on. The same is obvious if the receiving station changes back to CQ or starts reporting to another station.

Shorten the String

The fundamental advantage of digital communication for all weak signal communication, including for MS, is repetition and redundancy. The same transmitted "message" is repeated time and time again by the transmitting station until the essentially random meteor return conducts it to the receiving station. Using FSK441 mode, a transmitted message, the "string", is encoded using one of four audio tones at 882, 1323, 1764 and 2205 Hz being transmitted at a rate of 441 Baud and transmitted for a precise period of 30 seconds from each minute. Each letter or character in the available 43 character alphabet is represented by a sequence of three tone transitions requiring 2.3ms for transmission. Each specific audio tone, when transmitted through an SSB transmitter, produces a single carrier frequency on air which gives the frequency shift keying (FSK) as the audio tone changes. In the SSB receiver at the other end the four carrier frequencies are transposed

back to the four audio tones.

Using the FSK441 format in WSJT allows for a maximum string length of 28 characters thereby allowing the entire string to be conducted on an average meteor return of 100 ms duration or greater. Typical strings include the callsigns of both transmitting and target stations and one of a number of reports or signals. Examples might include "VK3AMZ/26 VK4UH", "VK3AMZ/RRR VK4UH" or "CQ VK4UH QG62" etc.

In this VK/ZL designed protocol, the use of the "/" character is used between a callsign and a report to designate the target station. This improves clarity, particularly when conditions are poor, where there are multiple stations operating and where partial decodes are common. The callsign of the transmitting station will always have a clear space at either end while the target station(s) will always have a "/" at the end.

When conditions are very favourable, with long and loud pings being received, then it is possible to be conducting QSOs with two or even three stations simultaneously by carefully using the maximum 28 characters. E.g. "VK3AMZ/26 VK3HY/R26 VK4UH" or "VK2BLS/73 VK5PJ/R26 VK4UH". Pushing even further and stripping out the prefixes "2AMS/26 3HY/R26 4EA/73 9NA". This of course is a trade-off, the longer the string the less statistical chance there is of a complete decode being received. When conditions are poor, the shorter the pings and the weaker the returns, it is common to lose more than is gained by operating in this way. This is compounded in meteor scatter work as the received signal is not of constant strength through each ping. At either end of a ping the signal is weaker leading to more uncertainty and more on screen "garbage" at each end of the string. The key to success under these conditions is to shorten the string as far as possible, removing all unnecessary characters and

spaces and to abandon attempts to work multiple stations e.g. "3AMZ/R26 4UH". If you imagine the logical extrapolation to where only a single letter "R" with no spaces was transmitted then the chance of a decode would be very high indeed. Be quite clear - the more characters sent in the string, the lower becomes the statistical likelihood of decoding.

MSRX – parallel decoding

MSRX (Meteor Scatter Receiver) is an alternative software programme. Like WSJT, MSRX is freely distributed for amateur use. This is a receive-only system capable of decoding both FSK441 and PSK2K meteor scatter signals. Operating with this programme is quite different from WSJT. The first thing to know is that MSRX does not monitor off air, it can only decode from existing captured audio files. When configured appropriately, at the end of each receive period, the WSJT programme writes a .wav file to the computer hard drive containing the raw audio signal as received during the last period.

MSRX can however be left running in the background, even on the authors modest shack laptop, and can be configured to read the WSJT .wav files and effectively have a "second go" at decoding any received pings. The decoding process is fundamentally different between the two programmes in a number of ways. Firstly, unlike WSJT, MSRX automatically attempts to separately decode all received pings irrespective of received signal strength. There is no equivalent of the threshold or "S" setting in WSJT and it is not possible to manually force a decode. MSRX indicates the level of confidence in decoding by changing the density of the typeface on screen characters. More importantly, the programme seeks repetition of character sequences across multiple pings and will frequently produce a complete and accurate decoded string,

by stitching together sequences decoded across a number of pings within a single receive frame where only partial or corrupted decodes were found in WSJT. MSRX can also be configured to highlight specific sequences such as specific callsigns or just suffixes as a further aid to reception. By virtue of this process MSRX is not decoding in real time and its output does not usually appear on screen until well into the next Tx period. However, it is a very useful aid to success particularly when conditions are poor.

Consider alternative modes

There are alternative digital modes, other than FSK441 for Meteor Scatter. ISCAT and PSK2K are unlikely to help when conditions are poor. The former is more suited to 6 m MS operation and the latter useful when conditions are enhanced. In the author's experience, the only serious contender for use during poor conditions is JTMS (Joe Taylor Meteor Scatter). This mode is available in the later versions of WSJT, from the mode options pull-down box, and was present as a hidden file in earlier versions. On screen the JTMS mode appears essentially identical to FSK441 and the transmitted audio is indistinguishable by ear. The decoding process is quite different however and cannot be covered in detail here. Suffice to say that the mode appears to give an advantage when conditions are poor and appears to provide decodes on very short pings below 100 ms where FSK441 struggles. On the downside the setting of the "S" parameter is critical and has to be varied between loud and weak pings in order to get decodes. Also there is significantly more on-screen garbage at either end of received pings. More importantly the two modes FSK441 and JTMS are entirely incompatible; neither mode can be decoded by the other receiver. Consequently they should not be used concurrently on the

same working frequency while other stations are operating. In VK or ZL it would be advisable to move to the secondary MS frequency 144.330 MHz to use JTMS during activity sessions at least. Another drawback is that the current version of MSRX suite is unable to decode JTMS for the "second go" as above.

Another very valuable tool in the MS armoury is the "ST" (Short-Text or Single-Tone) mode. This mode is available from within FSK441 and is activated by checking (ticking) the Rx ST and Tx ST Boxes on the WSJT working panel. In this mode, one (only) of the four basic audio tones is transmitted constantly during the transmit cycle. The four tones are used to signify (code for) the four possible reports 882 Hz = R26, 1323 Hz = R27, 1764 Hz = RRR, and 2205 Hz = 73. Each specific audio tone produces a specific on-air blank carrier of course, only its frequency carries the information as there is no other modulation to be detected. Even the shortest detectable ping, well below 100 ms, will be decoded as one of the reports, will show as a bright spot against the corresponding calibration lines on both of the WSJT panels and can easily be distinguished by pitch with the unaided ear.

There are a few provisos when considering this mode. Only one of the four reports as above can be transmitted. There is no information to identify either the source or destination station. Before use therefore there must have already been an exchange of callsigns and in practice therefore the first normal report sequence i.e. VK3HY/26 VK4UH must have been received. Secondly only one pair of stations can be using the ST on a particular frequency at the same time. Realistically this limits the use of this mode during normal activity sessions except by arrangement.

It is reasonable to wonder if this is a valid exchange. It should be remembered however that in a digital EME QSOs using JT65 and also in a CW EME QSOs that once callsigns are exchanged, then the subsequent confirmation reports RO, RRR and 73 are also sent by an alternating single tone sequence in JT65 or plain CW in that mode without any other information indicating source or destination stations.

Experienced MS operators will frequently switch to ST mode to complete an established but difficult QSO when conditions are poor. Single tones are easily distinguishable by ear to indicate that this course of action has been

taken. On a practical note, when using ST, it is necessary to have only the required report in the Transmit message window. No callsigns or other characters. When working correctly, the on-screen message in WSJT will change from yellow to blue to indicate ST is operating. Monitoring the transmitted signal will produce a single audio tone, useful to train the ear to the tones to be listened for.

Is it reasonable to indicate that this action has been taken using facilities such as the VK Logger? Well this operator at least believes this to be an acceptable practice, as long as the report itself is not disclosed by any means other than reception on-air.

Other common sense tactics apply including pre-arranged operating times, activity sessions and fair use of resources such as the VK Logger. Be persistent, get up earlier, get as much power as possible up to the antenna feed point and encourage others to try this mode of propagation. The more stations on-air the more chance of a successful QSO!

Please send any reports, questions or enquiries about Meteor Scatter in general or the digital modes used to Kevin VK4UH at vk4uh@wia.org.au



Redcliffe & Districts Radio Club Inc

REDFest 2015

9.00 am, 11th of April, St Michael's College, Caboolture
(check the website for directions – www.redclifferadioclub.org.au)

Vendor's setup from 7.00 am, Coffee, cold drinks and hot food available from 8.00 am

Preloved goods, commercial vendors (RF Solutions, VK4ICE Communications and Altronics) and tech talks from 10 am, tables available to everybody for \$10

Contests

James Fleming VK4TJF

✉ vk4tjf@wia.org.au

March offers up superb US and Australian contests

The big one for the US is the ARRL International SSB contest on 7th and 8th March. The contest is a 48-hour contest that goes from 0000 Saturday UTC to Monday 2359 UTC. This one should be fun and a good chance to get your headphones and microphones out for some good DX contacts into North America on the 160, 80, 40, 20, 15 and 10 metre amateur bands.

If you really want to ramp up the fun, get some friends together and operate in the multi-op section. You can bet that there will be some keen contesters within Australia to make this contest competitive.

Even if you are not into contesting this is a great opportunity to pick up some new states for the ARRL's Worked All States award.

The ARRL has also designed a new WAS Award. This is a nice contest to either operate in a single band or to try all of them.

One can use any power from QRP to full legal limit here in Australia. Scoring is pretty simple, 3 points for W/VE QSO and multipliers for contacts with the 50 states in USA and also provinces in Canada thus making 63 possible multipliers per band.

There are many different categories to choose from. They have a category called single operator unlimited with low or high power (no QRP) in which you can use the spotting networks and spotting assistance legally. Other categories are single operator all band where one can have power levels of QRP (5 watts), low (150 watts) or high (400 watts). You can also do multi-operator single transmitter with low or high power or multi-two and multi-multi

Contest Calendar for March 2015 - May 2015

Month	Date	Starts at	Spans	Name	Mode
March	7th – 8th	0000 UTC	48 hours	ARRL International DX contest	SSB CW
	14th – 15th	1000 UTC	24 hours	RSGB Commonwealth contest	
	21st – 22nd	0100 UTC	24 hours	John Moyle Memorial Field Day	SSB/CW/Digital
	21st – 22nd	1200 UTC	24 hours	Russian DX contest	SSB/CW
	21st – 22nd	0200 UTC	48 hours	BARTG HF RTTY contest	RTTY
	28th – 29th	0000 UTC	48 hours	CQ WW WPX contest	SSB
April	4th	1000 UTC	2 hours	QRP Hours contest (80 m)	CW/PSK31/ RTTY/SSB
	11th – 12th	0700 UTC	30 hours	JIDX CW contest	CW
	18th – 19th	2100 UTC	20 hours	YU DX contest	CW
May	2nd	1000 UTC	106 min	Harry Angel Memorial 80 m sprint	Phone/CW/ Mixed
	2nd – 3rd	1200 UTC	24 hours	ARI International DX contest	SSB/CW/RTTY

with high power. There are many different combinations. I'm sure that if you pick the right one for your circumstance you could easily earn a certificate.

The N1MM logger is the one to use for this contest. The best part is that it is free and it is very easy to email your file to the ARRL. However you don't even have to do that, even if you just give out a few numbers I'm certain any contest operator will appreciate it. Remember the exchange for this one is simple 59 and power output used so example 59 100 or 59 5 or 59 150 or 59 400. In return you will receive the RS 59 and the state or province for example 59 CT for Connecticut or 59 BC for British Columbia.

The big Australian contest is the John Moyle Field Day on the 21st and 22nd of March. The contest goes from 0100 UTC on Saturday to 0059 UTC on Sunday for only 24 hours. This in my view is both a field day and a contest. It is a laid back contest where you have time to give your name and location, and also a chance to get work some DX (in a field day setting) especially on

CW where the rules stipulate that if they do not give you a serial number then just log it as 001. **All contacts counts towards points, including any DX contacts.**

It is perfect for going camping during the weekend and making some great contacts. There are some nice Scout camps and wildlife parks to do portable operations from.

Not only is it a good way to test our emergency communication skills, it is a chance to operate on Friday night making contacts on the 40 and 80 metre bands under your own call sign before the contest starts. There is nothing better than sleeping under the stars and sharing the weekend with good mates. I have made up my own go-pack and this is a good time to test out that new antenna.

There are many different entry categories broken down into single operator portable or multi-operator portable. Within each are three sub-categories, based on time: 6 hours or 24 hours, mode: CW, digital, phone, or all modes and band: HF, VHF/UHF, or all bands.

Home and SWL entries can only

be all bands and all modes however can operate 24 hours or 6 hours.

HF stations score 2 points per QSO and double that for CW.

On VHF and UHF the longer distance your contact is the more points you get. The way I see it is that you stand more of a chance getting a nice certificate if you go out portable if only for 6 hours.

This year, the rule continues that if any station works the same station more than 5 times on any band or mode, both stations must enter a log to verify the contacts. This should not be a problem as most of the stations that work each other more than 5 times submit logs anyway.

By the end of the contest everyone knows each other, this from working every three hour time block. A cohesive bond forms from knowing that you are both brothers in the amateur radio community and are dedicated operators.

There is no advantage to working DX and no sub classes in power, nor any extra points for any particular HF band. So I reckon the best thing would be set up a dipole at your favourite camp site and have fun.

Bring along a computer for logging with the VKCL logging program on it and just email your log to the WIA when done. And for those who are not doing the

contest please - any contact is a great contact! If you are mobile, at home, or just on the radio for an hour during the weekend just drop a signal report and number.

For more details of the rules, see page 49 of the January/February issue of *Amateur Radio*, or check out the WIA webpage <http://www.wia.org.au/members/contests/johnmoyle/>

And don't forget to clear your work roster for a fun filled weekend of camping, radio, BBQ, ham radio mate ship and plenty of contacts.

Harry Angel Memorial 80 m Sprint 2015

Dr Kevin Johnston VK4UH, Contest Manager

Date: Saturday 2 May 2015: 1000 UTC - 1146 UTC

The Harry Angel Sprint is an annual 80 m contest event, first established in 1999, to commemorate the life of Harry Angel VK4HA who, at the time of his death at the age of 106, was the oldest licensed amateur in Australia. The duration of the contest is 106 minutes in commemoration of Harry's age, one minute for each year of his life.

The "HA" is held on or around the first Saturday in May each year. The contest is open to all grades of licence holder and is structured specifically to suit both seasoned contesters and operators new to contesting. The rules for this year's event are essentially unchanged from 2014 apart from the addition of a new SWL category.

Place winners in the Harry Angel Contest are also eligible to claim points for the WIA Contest Champion (Peter Brown) Trophy.

"Harry Angel" Rules

The contest is open to all amateurs, who are licensed to use 80 m, including individual operators

and those entering on behalf of a licensed club or society.

The aim of the competition is to make as many contacts as possible in the allotted time. Each station may be worked on one occasion only per mode.

This year there will be four sections, the three existing

transmitting sections PHONE, CW and MIXED will remain unchanged from previous years. A new Short Wave Listener (receive only) section is being added.

Entries may only be made in one section.



The Harry Angel Sprint is managed by the Redcliffe and District Radio Club under the auspices of the WIA and its Contest Committee

Frequencies

CW 3500 - 3535 kHz. Phone 3535 - 3665 kHz

Exchange

RS(T) and serial number commencing at 001

Scoring: 2 points per CW QSO, 1 point per Phone QSO

Log

Transmitting logs must show Time UTC, Callsign of stations worked, mode, RS(T) sent and received and a serial number commencing at 001.

SWL logs Listener entries must include callsign of station heard, callsign of station being worked and the report being given to station being worked, RS(T) and a serial number commencing at 001. Listeners may only log stations actually heard but need not have reception of both stations in order to claim points.

Each entry shall be accompanied by a statement to the effect that "Operation was conducted within the rules and spirit of the competition" – this occurs automatically with entries from the VKCL logging software.

Entries

VK Contest Logger (VKCL) is the recommended logging software.

Logs may be submitted via e-mail in electronic format, the preferred method, or by post.

To ensure all electronic logs are captured all e-mailed entries must contain the following string in the subject line:

"Harry Angel Log <CONTEST STATION CALLSIGN>"

Entrants are specifically requested not to send more than one e-mailed log file.

Postal entries must be clearly legible and by preference printed in the above VKCL format.

The contest managers request that all logs clearly indicate the callsign of the contest station itself – not the callsign of the operator of person filing the log where this is different.

Hand written and typed entries will still be accepted provided that they are clear and legible and in the same basic format as VKCL.

Entries must be received by last post on Monday 18th May 2015.

Electronic submission to
harryangel@redclifferadioclub.org.au

To ensure all electronic logs are captured all e-mailed entries must contain the following string in the subject line:

"Harry Angel Log <CONTEST STATION CALLSIGN>"

i.e. Harry Angel Log <VK3ABC>

Postal submissions to

Harry Angel Sprint Manager
Redcliffe and District Radio Club
PO Box 20, Woody Point. Qld 4019

All entries must include a return postal address and a current e-mail address. Receipt of all logs will be confirmed by e-mail within two working days.

The managers would also welcome a short note with entries indicating some brief details of the station and antenna used and any comments regarding operating

conditions occurring during the contest (suitable for printing please).

Results

Results will be announced first on the WIA Sunday Morning News Broadcast and then published within 28 days of the closing date on:

WIA Contest website,
Redcliffe and Districts Radio Club website,
Contest column of *Amateur Radio* magazine (August edition).

Awards

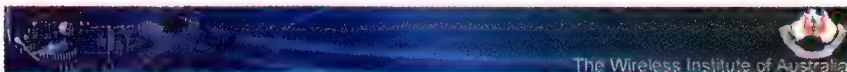
Certificates will be awarded at the discretion of the contest manager for the top three entries in each of the transmitting sections and for the top entry in the SWL section.

For simplicity only the callsigns of the top five position holders in each section will be published (to assist entrants to the Contest Champion Trophy to claim their due points). Entrants using "HA" scores for in-house or interclub competitions are requested to retain a separate log for those purposes.

The Harry Angel Sprint 2015 is being coordinated on behalf of the Redcliffe and Districts Radio Club and the WIA by Contest Managers Kevin Johnston VK4UH and Charlie Strong VK4YZ.

Full information regarding the contest is available on the WIA Contest website <http://www.wia.org.au/members/contests/harryangel/index.php> and R&DRC website: <http://www.redclifferadioclub.org.au>

MEMNET



Have you registered for MEMNET yet?

Go to www.wia.org.au click on 'For Members', then click on 'Log into MEMNET', and register... it's very simple.

If you have already registered for MEMNET but have not received a confirmation Email we may not have your correct email address.

Please email memnet@wia.org.au with your email address, name and membership number.

If you are changing your email address, please *remember to update* your information in **MEMNET**.

VHF-UHF Field Days – Spring 2014 & Summer 2015 results

Roger Harrison VK2ZRH

Firstly, congratulations to all of the top-scoring stations for the two contests in each of the six sections of the two categories, and to VK5FDEC – the top-scoring Foundation station.

In early 2014, the WIA Board decided to trial two alternative sets of scoring rules for the three forthcoming VHF-UHF Field Days, being Winter and Spring 2014 and Summer 2015, then review the participation and consider the rules for future contests. The 'traditional' VHF-UHF Field Day grid square-based scoring system was retained (called Division 1) and a distance-based scoring system introduced (called Division 2). The underlying idea behind this move was to "let the 'market' decide". Contestants could enter logs in either or both Divisions. Well, it seems that the 'market' has decided to pretty much have an each-way bet!

As Division 2 was new, it was expected that initial log submissions might be lower than for Division 1, which it was, but not by a great amount. Many stations in each of the three contests submitted logs for both Divisions. Curiously, the number of operators submitting logs

only for Division 2 remained pretty constant – 10 for Winter 2014, nine for Spring 2014 and 10, again, for Summer 2015. In all, over the three contests, 23 operators submitted logs for Division 2 alone; only John VK2YW entered all three. Go figure.

The general principles behind the introduction of the distance-based scoring system were to:

- (a) educate newcomers to the VHF-UHF bands in the capabilities that the bands afford beyond the myth of "line-of-sight" propagation,
- (b) encourage self-education in VHF-UHF operation by contest participation, and
- (c) to continue the tradition of so many VHF-UHF pioneers who sought to establish 'what could be done' on the bands above 30 MHz [1].

Summaries of Results

All the results for the tables reproduced here were produced by Mike Subocz VK3AVV, who developed special log checking and scoring software for both Divisions, a task that would have been considerably more difficult without his sterling work, for which

we thank him. The software is being further developed by Mike. Many testers otherwise know Mike as the developer of the VKCL contest logging software (free to download from <http://www.mnds.com.au/vkcl/>).

In the past, the Results Summary tables included three rows for the top-scoring stations – all bands, 50-144-432-1296 MHz and F-calls. Since there has been discussion on-air and online over the past 15 months or so about adding a category for stations operating up to four bands **only** (50-144-432-1296 MHz), you will see that I have included an extra row to cover this situation, as an example. You can draw your own conclusions from the results. There may be good arguments to consider introducing such a category to the rules for future contests. We'd like to hear from you.

Note that, in the detailed results tables, the top-scorer of a 24 hour section is excluded from the corresponding 8 hour section. These instances are identified in the tables by shading across the row.

Spring 2014 Division 1 – Results Summary

SECTION	A	B	C	D	E	F
Top Scoring Stations (all bands)	VK5KK	VK5TE	VK3ER	VK5LZ	VK3MY	VK5ZD
Top Scoring Stations on 6 m / 2 m / 70 cm / 23 cm	VK40E, VK5MK	VK3YFL	VK3ER	VK3KQ	VK3MY	VK5ZD
Top Scoring F-call Stations	–	–	–	–	VK5FDEC	–
4-band only, for the sake of example						
Top Scoring Stations 6 m / 2 m / 70 cm / 23 cm only	VK5SFA	VK3DAE	VK3YVG	VK2EH	VK1KW	–

Spring 2014 Division 2 – Results Summary

SECTION	A	B	C	D	E	F
Top Scoring Stations (all bands)	VK5TE	VK40E	VK5LZ	VK3ER	VK3MY	VK5ZD
Top Scoring Stations on 6 m / 2 m / 70 cm / 23 cm	VK1DA	VK40E	VK3ER	VK3ER	VK3MY	VK5ZD
Top Scoring F-call Stations	–	–	–	–	VK5FDEC	–
4-band only, for the sake of example						
Top Scoring Stations 6 m / 2 m / 70 cm / 23 cm only	VK1DA	VK4ADC	VK3YVG	–	VK5AKK	–

Summer 2015 Division 1 – Results Summary

SECTION	A	B	C	D	E	F
Top Scoring Stations (all bands)	VK5ZD	VK2CU	VK3ER	VK3UHF	VK3MY	VK5ZT
Top Scoring Stations on 6 m / 2 m / 70 cm / 23 cm	VK4OE	VK3WRE	VK3ER	VK3KQ	VK3MY	VK5ZT
Top Scoring F-call Stations	–	–	–	–	VK5FDEC	–
4-band only, for the sake of example						
Top Scoring Stations 6 m / 2 m / 70 cm / 23 cm only	–	VK50Q	VK1DSH	–	VK2UL	

Summer 2015 Division 2 – Results Summary

SECTION	A	B	C	D	E	F
Top Scoring Stations (all bands)	VK5KBJ	VK4ADC	VK3ER	VK3KQ	VK4OH	VK5ZT
Top Scoring Stations on 6 m / 2 m / 70 cm / 23 cm	VK5KBJ	VK4ADC	VK3ER	VK3KQ	VK4OH	VK5ZT
Top Scoring F-call Stations					VK5FDEC	
4-band only, for the sake of example						
Top Scoring Stations 6 m / 2 m / 70 cm / 23 cm only	–	VK50Q	–	VK4WIE	VK4OH	

Spring 2014 – general comments

According to a reckoning by John Martin VK3KM [2], the Spring 2014 contest was the 50th WIA-sponsored VHF-UHF Field Day since the first in 1989. Quite a milestone!

In all, 54 contestants submitted logs for the Spring 2014 contest. Some 159 stations participated, of which 35 had made at least 10 contacts, but more than 100 participants did not submit logs. Some work will have to be done to encourage a greater number of participants to submit logs.

A total of 45 logs were submitted for Division 1 – the same as for the Winter Field Day – while 35 logs were submitted for Division 2, down eight on the Winter Field Day results. I note 26 operators submitted logs for both Divisions, while 19 operators submitted logs only for Division 1, and nine operators submitted only for Division 2. Even so, I observe that some stalwarts of the VHF-UHF Field Days submitted to both Divisions for the first time – EMDRC VK3ER and Keith VK50Q, for example. Meanwhile, Peter VK3YE reverted to entering Division 1 only this contest, after submitting logs for both Divisions in Winter.

The number of VK1 contestants quadrupled in the Spring contest

compared to Winter! Again, five VK2s entered logs in both Winter and Spring contests, but only one – John VK2YW – entered both contests! More VK3s ventured out for the Spring contest – 23 – compared to 19 for Winter. Perhaps the Sun brings them out. In Winter, 14 VK4s entered logs, but only eight in Spring. Perhaps some wild weather at the time dissuaded a few and ‘other priorities’ accounted for the rest. In contrast to the VK3s, VK5 entrants dropped to 13 for Spring, against 17 for Winter.

Thankfully, there has been considerable take up of the initiative providing the log upload facility on the website.

A few statistics

A total of 6216 contacts were recorded. Of these, 3754 – or 60% – were checked. Accuracy of log-keeping, while comparatively high, has room for improvement; 15 operators logged a band incorrectly; 23 copied a call incorrectly, while 80 copied an exchange incorrectly.

Summer 2014 – general comments

Some 201 stations participated in the Summer contest, but only 61 operators submitted logs. So, both participants and log-submitters increased compared with the previous two contests, which is gratifying.

Two operators – Justin VK2CU and Matt VK2DAG – have raised the bar for everyone by adding 76 GHz to their station arsenals! This ploy saw Justin VK2CU gain top score in the Division 1 Portable Single Operator, 8 hour Section (B). Well done Justin! Matt VK2DAG was just squeezed out of the top spot in the Division 1 24 hour Section (A) by Iain VK5ZD, who only deployed all bands to 24 GHz, but scored rather well on the lower four bands.

A timely sporadic E opening on 6 m saw quite a few stations rack up large scores in Division 2 and all Sections. Dan VK4OH went hammer-and-tongs on 6 m only to take out top score for a Home Station (Section E). This opening saw VK6 stations appear in the logs, for the first time in many years apparently.

Again, the website log upload facility was used by the majority of operators submitting logs.

A few statistics

In total, 6395 contacts were recorded. The number of contacts checked were 3673, equalling 57%. Accuracy of log-keeping improved slightly compared to the previous contest, with eight operators logging the band incorrectly, 22 calls copied incorrectly and 77 exchanges not copied correctly.

Conclusion

Thanks are due to Mike Subocz VK3AVV, again, along with Michael Binz VK3ALZ (new Division 1 Contest Manager) and Colin Hutchesson VK5DK (Division 2 Contest Manager).

Future Field Day dates and contest rules will be announced on the website and in *AR* magazine.

The WIA Board is interested in your feedback and suggestions concerning the VHF-UHF Field Days, which can be emailed to the WIA National Office at nationaloffice@wia.org.au, fax (03) 9729 7325, or letter to PO Box 2042, Bayswater, Victoria 3153.

The full results for the Spring Field Day can be found under Contests on the WIA web page.

References

- [1] *The basis of distance-based scoring for the VHF-UHF Field Days*, Roger Harrison VK2ZRH, *Amateur Radio*, June 2014, pp 11-13.
- [2] *Winter VHF-UHF Field Day 2014: Results (Division 1)*, John Martin VK3KM, *Amateur Radio*, September 2014, pp 40-41.

Summer 2015 Field Day Results



A view of the station set up for VK3KQ/p for the Summer VHF/UHF Field Day.

Division 1 – Results Summary

SECTION	A	B	C	D	E	F
Top Scoring Stations (all bands)	VK5ZD	VK2CU	VK3ER	VK3UHF	VK3MY	VK5ZT
Top Scoring Stations on 6 m / 2 m / 70 cm / 23 cm	VK4OE	VK3WRE	VK3ER	VK3KQ	VK3MY	VK5ZT
Top Scoring F-call Stations	—	—	—	—	VK5FDEC	—
4-band only, for the sake of example						
Top Scoring Stations 6 m / 2 m / 70 cm / 23 cm only	—	VK5OQ	VK1DSH	—	VK2UL	

Division 2 – Results Summary

SECTION	A	B	C	D	E	F
Top Scoring Stations (all bands)	VK5KBJ	VK4ADC	VK3ER	VK3KQ	VK40H	VK5ZT
Top Scoring Stations on 6 m / 2 m / 70 cm / 23 cm	VK5KBJ	VK4ADC	VK3ER	VK3KQ	VK40H	VK5ZT
Top Scoring F-call Stations					VK5FDEC	
4-band only, for the sake of example						
Top Scoring Stations 6 m / 2 m / 70 cm / 23 cm only	–	VK50Q	–	VK4WIE	VK40H	

DIVISION 1

Section A – Single Operator, 24 hours

Callsign	Name	Location/s	VHF – UHF Bands					Microwave Bands							Alli-bands TOTAL
			50 MHz	144 MHz	432 MHz	1296 MHz	SUB TOTAL	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	24 GHz	47 GHz	76 GHz	
VK5ZD	Iain Crawford	PF95, PF96	32	240	480	728	1480	800	800	800	800	800	–	–	5480
VK2DAG	Matt Hetherington	QF35, QF46	52	156	260	416	884	500	500	500	480	490	500	500	4354
VK5KK	David Minchin	PF94, PF95	23	192	325	496	1036	510	490	490	490	450	230	–	3696
VK40E	Doug Friend	QG61, QG62	114	336	505	544	1499	490	450	320	460	–	–	–	3219
VK5TE	Simon Brandenburg	PF94	46	222	335	432	1035	360	340	350	350	330	220	–	2985
VK5KBJ	Barry Bates	PF94	226	237	455	432	1350	–	–	–	–	–	210	–	1568

Section B – Single Operator, 8 hours

Callsign	Name	Location/s	VHF – UHF Bands					Microwave Bands							Alli-bands TOTAL
			50 MHz	144 MHz	432 MHz	1296 MHz	SUB TOTAL	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	24 GHz	47 GHz	76 GHz	
VK5ZD	Iain Crawford	PF95, PF96	32	207	425	664	1328	770	770	770	770	770	–	–	5178
VK2CU	Justin Lavery	QF36, QF46	48	144	240	376	808	470	470	470	450	470	470	470	4078
VK3WRE	Ralph Edgar	QF31	–	282	480	584	1346	560	430	330	210	–	–	–	2876
VK5KK	David Minchin	PF94, PF95	22	135	220	336	713	360	360	350	350	330	230	–	2693
VK5TE	Simon Brandenburg	PF94	25	141	205	328	699	350	340	340	340	330	220	–	2619
VK3QM	David Learmonth	QF11, QF12	32	96	160	168	456	320	320	320	320	320	320	–	2376
VK40E	Doug Friend	QG61, QG62	44	108	245	368	765	350	330	320	340	–	–	–	2105
VK4ADC	Doug Hunter	QG62	259	198	240	280	977	210	230	–	–	–	–	–	1417
VK3YFL	Bryon Dunkley-Smith	QF22	70	189	175	472	906	–	–	–	460	–	–	–	1366
VK5KBJ	Barry Bates	PF94	197	159	315	320	991	–	–	–	–	–	210	–	1201
VK50Q	Keith Gooley	PF95	56	123	225	320	724	–	–	–	–	–	–	–	724
VK3AUQ	Kevin Phillips	QF22	121	195	345	–	661	–	–	–	–	–	–	–	661
VK3ANL	Nicholas Lock	QF22	79	132	160	–	371	–	–	–	–	–	–	–	371

Section C – Multi-operator, 24 hours

Callsign	Name	Location/s	VHF – UHF Bands					Microwave Bands							Alli-bands TOTAL
			50 MHz	144 MHz	432 MHz	1296 MHz	SUB TOTAL	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	24 GHz	47 GHz	76 GHz	
VK3ER	EMDRC	QF22	406	969	1325	1096	3796	900	820	810	830	340	–	–	7496
VK3ALB	Lou Blasco	QF11	115	570	575	784	2044	960	770	710	700	570	440	–	6197
VK3KQ	Damian Ayres	QF12	177	693	660	952	2482	840	650	700	590	–	–	–	5262
VK4WS	Wayne Shaw	QG61	159	207	315	464	1145	340	210	–	350	–	–	–	2045
VK1DSH	Dale Hughes	QF45	80	156	250	184	670	–	–	–	–	–	–	–	670

Section D – Multi-operator, 8 hours

Callsign	Name	Location/s	VHF – UHF Bands					Microwave Bands							All-bands TOTAL
			50 MHz	144 MHz	432 MHz	1296 MHz	SUB TOTAL	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	24 GHz	47 GHz	76 GHz	
VK3ER	EMDRC	QF22	256	531	715	752	2254	760	730	720	710	330	–	–	5504
VK3UHF	Lara UHF uwave Group	QF21	45	288	380	736	1449	820	800	590	570	330	220	–	4779
VK3ALB	Lou Blasco	QF11	101	339	435	504	1379	750	710	620	490	340	210	–	4499
VK3KQ	Damian Ayres	QF12	127	459	445	616	1647	630	600	620	490	–	–	–	3987

Section E – Home Station, 24 hours

Callsign	Name	Location/s	VHF – UHF Bands					Microwave Bands							All-bands TOTAL
			50 MHz	144 MHz	432 MHz	1296 MHz	SUB TOTAL	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	24 GHz	47 GHz	76 GHz	
VK3MY	Ross Keogh	QF22	210	618	575	672	2075	680	260	660	690	–	–	–	4365
VK3VFO	Nick Kraehe	QF31	21	363	410	384	1178	220	–	220	–	–	–	–	1618
VK2UL	Geoff Rozenberg	QF45	21	360	390	280	1240	–	–	–	–	–	–	–	1240
VK5DF	Daniel Flakelar	PF94	92	249	320	416	1077	–	–	–	–	–	–	–	1077
VK4ALH	Leicester Hibbert	QG63	207	219	245	400	1071	–	–	–	–	–	–	–	1071
VK5MK	Mark Hutchinson	PF94	127	204	305	400	1036	–	–	–	–	–	–	–	1036
VK4VU	Rod Preston	QG62	–	156	–	440	596	–	350	–	–	–	–	–	946
VK3WT	Max Chadwick	QF22	150	219	330	232	931	–	–	–	–	–	–	–	931
VK5DT	Darren Jury	PF95	133	231	350	192	906	–	–	–	–	–	–	–	906
VK3DLR	David Ryan	QF22	48	234	165	208	655	230	–	–	–	–	–	–	885
VK1JA	Jason Meli	QF44	21	303	255	288	867	–	–	–	–	–	–	–	867
VK2JDS	David Scott	QF46	24	72	120	184	400	–	–	220	220	–	–	–	840
VK3MEG	Steve Barr	QF22	85	309	385	–	779	–	–	–	–	–	–	–	779
VK3APW	Peter Westgarth	QF21	84	246	185	256	771	–	–	–	–	–	–	–	771
VK3CG	Gerard Sexton	QF22	183	237	320	–	740	–	–	–	–	–	–	–	740
VK1AI	Greg Parkhurst	QF44	186	282	230	–	698	–	–	–	–	–	–	–	698
VK3YFL	Bryon Dunkley-Smith	QF22	43	105	125	176	449	–	–	–	210	–	–	–	659
VK5FDEC	Damien Clissold	PF95	–	210	325	–	535	–	–	–	–	–	–	–	535
VK3PH	Pater Hartfield	QF22	103	183	190	–	476	–	–	–	–	–	–	–	476
VK3SMC	Simon McLure	QF22	104	123	150	–	377	–	–	–	–	–	–	–	377
VK4QG	Allan Downie	QG63	112	–	240	–	352	–	–	–	–	–	–	–	352
VK5KX	Peter Murphy	PF95	21	111	185	–	317	–	–	–	–	–	–	–	317
VK2IUW	Hilary Bridel	QF56	118	78	115	–	311	–	–	–	–	–	–	–	311
VK3TZ	Tony Burt	QF22	44	90	145	–	279	–	–	–	–	–	–	–	279
VK3FMHY	Michael Hyderiotis	QF22	–	135	135	–	270	–	–	–	–	–	–	–	270
VK3FCEK	Christine Kaucner	QF22	–	78	130	–	208	–	–	–	–	–	–	–	208
VK3KG	Craig Cook	QF12	–	192	–	–	192	–	–	–	–	–	–	–	192
VK3SOT	Chris Halabut	QF22	–	72	–	–	72	–	–	–	–	–	–	–	72
VK2BBQ	Ken Rayner	QF56	–	66	–	–	66	–	–	–	–	–	–	–	66
VK3ZGP	Garry Page	QF21	21	–	–	–	21	–	–	–	–	–	–	–	21

Section F – Rover, 24 hours

Callsign	Name	Location/s	VHF – UHF Bands					Microwave Bands							All-bands TOTAL
			50 MHz	144 MHz	432 MHz	1296 MHz	SUB TOTAL	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	24 GHz	47 GHz	76 GHz	
VK5ZT	Tim Dixon	PF85-86, PF94-95-96	64	258	540	760	1622	920	910	900	920	770	–	–	6042
VK3ACG	Chris Gladman	QF11-12, QF21	116	246	405	–	767	810	800	790	–	–	–	–	3167

DIVISION 2

Section A – Single Operator, 24 hours

Callsign	Name	Valid QSOs	Avg. km/QSO	VHF – UHF Bands				Microwave Bands								All-bands TOTAL
				50 MHz	144 MHz	432 MHz	1296 MHz	SUB TOTAL	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	24 GHz	47 GHz	76 GHz	
VK5KBJ	Barry Bates	171	219	27,153	2534	8694	4255	42,636	–	–	–	–	–	10	–	42,646
VK5ZD	Iain Crawford	125	58	34	1233	4704	5782	11,753	2844	3466	4088	4710	6160	–	–	33,021
VK4OE	Doug Friend	117	133	6560	4059	10,006	5790	26,415	2226	1957	508	1670	–	–	–	32,776
VK5KK	David Minchin	120	51	64	1137	3721	4436	9358	3197	3432	3839	5121	2060	30	–	27,037
VK5TE	Simon Brandenburg	146	46	689	2151	5001	4448	12,289	2026	1616	2308	3357	1490	20	–	23,106

Section B – Single Operator, 8 hours

Callsign	Name	Valid QSOs	Avg. km/QSO	VHF – UHF Bands				Microwave Bands								All-bands TOTAL
				50 MHz	144 MHz	432 MHz	1296 MHz	SUB TOTAL	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	24 GHz	47 GHz	76 GHz	
VK4ADC	Doug Hunter	72	593	38,298	2155	3286	1162	44,901	283	1241	–	–	–	–	–	46,425
VK5KBJ	Barry Bates	84	343	22,440	1302	5110	2461	31,313	–	–	–	–	–	–	–	31,313
VK5ZD	Iain Crawford	80	74	34	808	3686	4666	9194	2445	2983	3521	4059	5290	–	–	27,492
VK4OE	Doug Friend	78	177	6064	3775	8526	4777	23,142	1451	1176	–	863	–	–	–	26,632
VK5KK	David Minchin	71	63	54	717	2497	3110	6378	2400	2932	2852	3986	1490	30	–	20,068
VK5TE	Simon Brandenburg	66	54	172	770	1758	2807	5507	1748	1616	1908	2896	1490	20	–	15,185
VK3AUQ	Kevin Phillips	65	190	9282	1287	3893	–	14,462	–	–	–	–	–	–	–	14,462
VK3YFL	Bryon Dunkley-Smith	43	113	2505	1025	913	3092	7535	–	–	–	4024	–	–	–	11,559
VK5OQ	Keith Gooley	42	136	2846	704	2469	2568	8587	–	–	–	–	–	–	–	8587
VK3ANL	Nicholas Lock	15	409	4447	462	393	–	5302	–	–	–	–	–	–	–	5302
VK3YAR	Ray Tampion	6	484	2590	409	280	–	3279	–	–	–	–	–	–	–	3279

Section C – Multi-operator, 24 hours

Callsign	Name	Valid QSOs	Avg. km/QSO	VHF – UHF Bands				Microwave Bands								All-bands TOTAL
				50 MHz	144 MHz	432 MHz	1296 MHz	SUB TOTAL	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	24 GHz	47 GHz	76 GHz	
VK3ER	EMDRG	631	218	80,009	20,703	41,185	25,985	167,882	12,000	11,033	11,840	15,104	3600	–	–	221,459
VK3KQ	Damian Ayers	317	165	22,026	15,077	15,930	15,587	68,620	8169	4340	9366	11,192	–	–	–	101,687

Section D – Multi-operator, 8 hours

Callsign	Name	Valid QSOs	Avg. km/QSO	VHF – UHF Bands				Microwave Bands								All-bands TOTAL
				50 MHz	144 MHz	432 MHz	1296 MHz	SUB TOTAL	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	24 GHz	47 GHz	76 GHz	
VK3KQ	Damian Ayers	169	176	13,944	7227	8862	6685	36,718	3899	2843	5051	4891	–	–	–	53,402
VK3UHF	Lara UHF uwave Group	92	81	329	1693	3061	5291	10,374	4637	4777	2895	5174	1530	780	–	30,167
VK4WIE	City of Brisbane RS	41	272	8576	1455	619	1135	11,785	–	–	–	–	–	–	–	11,785

Participate

John Moyle Field Day Contest
Harry Angel Sprint

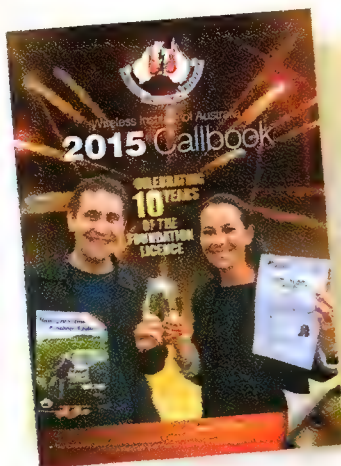
21 - 22 March
2 May

Section E – Home Station, 24 hours

Callsign	Name	Valid QSOs	Avg. km/QSO	VHF – UHF Bands				Microwave Bands								All-bands TOTAL
				50 MHz	144 MHz	432 MHz	1296 MHz	SUB TOTAL	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	24 GHz	47 GHz	76 GHz	
VK40H	Dan Aitken	91	1400	109,216	–	–	–	109,216	–	–	–	–	–	–	–	109,216
VK3MY	Ross Keogh	294	143	20,307	6765	9077	8610	44,759	9181	2645	12,203	13,846	–	–	–	82,634
VK2UL	Geoff Rozenberg	93	463	34,960	3653	4004	1461	44,078	–	–	–	–	–	–	–	44,078
VK4ALH	Leicester Hibbert	79	566	36,810	1901	1527	3427	43,665	–	–	–	–	–	–	–	43,665
VK3CG	Gerard Sexton	116	281	26,465	1868	3587	–	31,920	–	–	–	–	–	–	–	31,920
VK5DT	Darren Jury	114	148	13,093	2517	5520	374	21,504	–	–	–	–	–	–	–	21,504
VK2IUW	Hilary Bridel	27	431	15,635	195	189	–	16,019	–	–	–	–	–	–	–	16,019
VK3WT	Max Chadwick	148	79	9519	1089	2758	2174	15,540	–	–	–	–	–	–	–	15,540
VK5MK	Mark Hutchinson	116	107	9397	1109	2394	1872	14,772	–	–	–	–	–	–	–	14,772
VK4IF	Brisbane VHF Group	74	72	–	2007	5084	3588	10,679	1229	–	77	1733	–	–	–	13,718
VK5DK	Colin Hutchesson	17	450	3397	1631	4379	1975	11,382	1167	–	–	–	–	–	–	12,549
VK5DF	Daniel Flakelar	121	84	5589	1431	2818	2254	12,092	–	–	–	–	–	–	–	12,092
VK30HM	Marc Hillman	39	340	10,536	596	864	–	11,996	–	–	–	–	–	–	–	11,996
VK3APW	Peter Westgarth	45	234	7258	1926	1523	628	11,335	–	–	–	–	–	–	–	11,335
VK3MEG	Steve Barr	75	100	3740	2409	4484	–	10,633	–	–	–	–	–	–	–	10,633
VK2YW	John Eyles	14	492	5992	1747	–	–	7739	–	–	–	–	–	–	–	7739
VK5FDEC	Damien Clissold	75	42	–	1722	4205	–	5927	–	–	–	–	–	–	–	5927
VK4VU	Rod Preston	32	57	–	655	–	3047	3702	–	2185	–	–	–	–	–	5887
VK3YFL	Bryon Dunkley-Smith	16	226	2465	347	574	386	3772	–	–	–	67	–	–	–	3839
VK3FCEK	Christine Kaucner	12	87	–	552	1440	–	1992	–	–	–	–	–	–	–	1992
VK5AKK	Phil Helbig	3	564	–	1707	–	–	1707	–	–	–	–	–	–	–	1707
VK3FMHY	Michael Hyderiotis	12	59	–	378	959	–	1337	–	–	–	–	–	–	–	1337
VK4MJF	John Morris	13	84	119	940	189	49	1297	–	–	–	–	–	–	–	1297
VK4GHZ	Adam Maurer	1	1367	1207	–	–	–	1207	–	–	–	–	–	–	–	1207
VK3KG	Craig Cook	14	75	–	1103	–	–	1103	–	–	–	–	–	–	–	1103

Section F – Rover, 24 hours

Callsign	Name	Valid QSOs	Avg. km/QSO	VHF – UHF Bands				Microwave Bands								All-bands TOTAL
				50 MHz	144 MHz	432 MHz	1296 MHz	SUB TOTAL	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	24 GHz	47 GHz	76 GHz	
VK5ZT	Tim Dixon	121	44	195	500	3951	3363	8009	3231	3418	3417	5346	1840	–	–	25,261



WIA 2015 Callbook

Available now

Arnold Holst XPH / VK30H WWI wireless operator

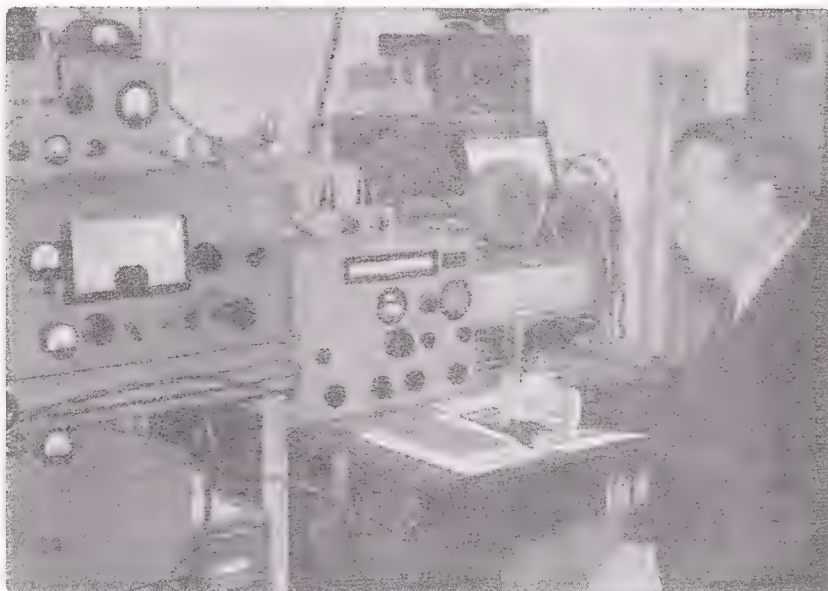
Peter Wolfenden VK3RV

Arnold Holst was but one amateur who served with the AIF in signals during WWI. At present, detail information about other amateurs is quite sparse, but we are slowly accumulating their stories. Hubert Douglas Billings (Bert) XJP a Railways clerk and telegraph operator was another who served and was featured in an article in AR in April 1990 by Jim Linton (1).

However, this article is about Arnold and it also provides some background to the establishment of the ANZAC Wireless Squadron.

During December 1915 urgent requests were received in Australia and New Zealand from India for assistance in the Expeditionary "D" Force operating in Mesopotamia. This is an area at the northern end of the Persian Gulf, from about Basra in the South and reaching some 400 km north-west to Baghdad. Both Australia and New Zealand responded immediately and the 1st Pack Wireless Signal Troop from Australia arrived in Mesopotamia on 19th March followed by a troop from New Zealand on 18th April 1916. A further increase in the wireless establishment was requested in March resulting in the 1st Australian Wireless Signal Squadron being formed. It arrived in Mesopotamia on 6th July 1916 and effectively took charge of the combined troops and handled the advanced wireless work. It was then known as the 1st Australian & New Zealand Signal Squadron (2).

Born in Sebastapol, Ballarat in 1897, Arnold Holst was one of three brothers. Arnold first became licensed in 1914 as XPH and is listed in the 1914 Call book. He enrolled in the AIF on 26th January 1916 stating that his occupation



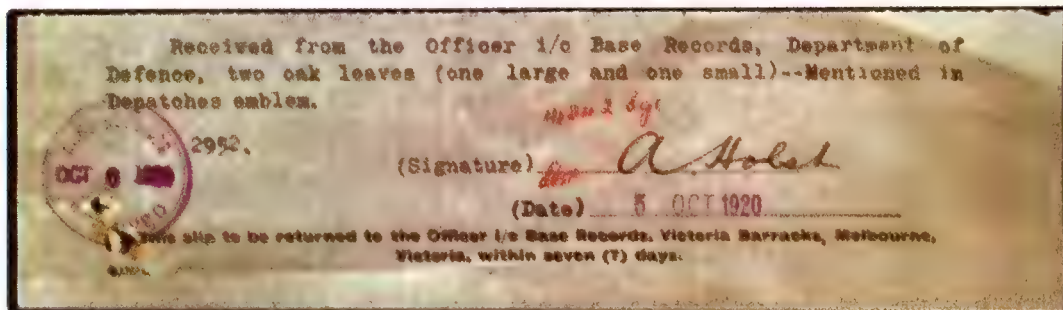
Arnold Holst VK30H in his shack 1958. From AR 9-1958.

was electrician. By February 16th he was at the First Australian Wireless Squadron, Broadmeadows Camp, and embarked for Mesopotamia on 30th May 1916. Both the Australian and New Zealand troops were absorbed into this squadron and it was soon known simply as "The ANZAC Wireless" (3).

The Marconi Company supplied the wireless equipment. It was of two designs; each configuration came complete with fuel supplies, earth mats and collapsible aerial masts (30 ft [10 m] for the "Pack Sets" and 70 ft [21 m] for the larger "Wagon Sets"). The smaller 500 watt or so called "Pack Sets" were capable of being carried in a broken down state, by five horses. The rotary spark transmitters had a guaranteed range of 35 miles [55 km] in daylight and the receivers used a battery biased

Carborundrum crystal detector all operating on about 700 m. Each Pack station had a total complement of 13 men and each man had responsibilities in erecting the station – within eight minutes! These stations were often continuously on the move! The larger wireless set rated at 1.5 kW was referred to as the "Wagon Set". It usually operated as a base station and used two limbered wagons drawn by teams of six horses for relocation (4).

Many of the operators in the ANZAC Wireless were Railway and Post Office Telegraphists, together with a fair sprinkling of amateur operators and together with other members of the forces had to contend with gruelling conditions in the Basra and Baghdad areas. Continual searing heat with temperatures often reaching 120 deg. F [50 deg. C] followed by



The receipt acknowledging the delivery of Holst's Mentioned In Despatches Oak Leaves. (Australian War Museum website).

No. 14342
Corporal
(Lance-Sergeant)
A. Holst.
x x x (3)

During the late 1920s and 1930s Arnold, together with his brothers operated the well-known amateur

pouring rains and mud! Humidity, mosquitos, sand-flies, scorpions, prickly heat and heat-stroke by day and frost-bite by night made life extremely difficult for all. However, the Wireless Squadron did their job and did it well!

After the war, Col. H.R. Hopwood, Chief of Staff to General Sir Stanley Maude wrote:

"..... The work of the ANZAC Squadron was beyond praise. I believe that I am absolutely correct in stating that no single instance occurred in which there was failure

to transmit, without loss of time, any message entrusted for despatch. Especially was this the case in early 1917 during the operations which preceded General Maude's final advance on Baghdad in March of that year, while the work of the unit during the actual advance was admirable."(5)

A surprise letter dated 18th December 1918 from the AIF Base Records Office, was received by Arnold's father, Fred. It read:

"Dear Sir,
I have much pleasure in forwarding hereunder copy of extract from seventh supplement No. 30867, to the London Gazette, dated 27th August 1918, relating to the conspicuous services rendered by your son, No. 14342, Acting-Sergeant A. Holst, Australian and New Zealand Wireless Squadron.

x x x

"MENTIONED IN DESPATCHES" by Lieutenant-General W.R. Marshall, KCB, KCSI, for distinguished and gallant services and devotion to duty:-

"broadcasting station" 3BY Caulfield, recorded segments of which can be heard on the WIA CD "The sounds of Amateur Radio" Volume 1.

Arnold also installed and operated the public address system in the Melbourne Town Hall up until about 1970.

Arnold died in 1975, a gentleman amateur operator, artist, and distinguished WWI veteran.

References

1. Jim Linton VK3PC, The Last Wireless ANZAC, Amateur Radio Magazine, WIA, April 1990, p32
2. Keast Burke, With Horse and Morse in Mesopotamia, www.ozebook.com, 1927, p5
3. Holst, Arnold records – Australian War Museum – <https://awm.gov.au/people/roll-search/all/>
4. Keast Burke, With Horse and Morse in Mesopotamia, www.ozebook.com, 1927, p15
5. Arnold Holst VK3OH, Wireless in the 1914-18 War, OTN magazine, ROATC March 2001, p27

3BY, CAULFIELD.

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From 12.30 to 3.

The B.B.C. Wireless Symphony Orch.—
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John C. Thomas, baritone—
"Nocturne" (Curran).
"My Message" (D'Ardet).
The Band of H.M. Welsh Guards—
"Zampa," overture.
Anglo-Persians Concert Orch.—
"In an Oriental Garden."
"Roses for Remembrance."
Jack Lumsdaine, the Radio Rascal—
"My Maori Maiden."
"Wonderful Eyes."
Ipana Troubadours Dance Orch.—
"Four Walls," foxtrot.

An example of the 3BY 1928 radio programme, from *Listener In*.

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AR is a forum for WIA members' amateur radio experiments, experiences, opinions and news.

Your contribution and feedback is welcomed.

Guidelines for contributors can be found in the AR section of the WIA website, at <http://www.wia.org.au/members/armag/contributing/>

Email the Editor:
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WIA Functional Committees

The WIA is a membership organisation with a very wide range of complex functions and member services. Core functions and services are administrative in nature (general administrative functions, membership services, examination and call sign management, financial etc...) and are performed by salaried staff.

Volunteers perform a diverse range of highly specialist functions (ACMA liaison, Frequency Co-ordination, Standards liaison, Interference issues, technical support and training and assessment etc.). These volunteers provide the majority of member services, however they have been loosely organised and often overstretched.

The new committee system attempts to structure the WIA's non-core activities into 10 broad functional areas, each comprising a team of volunteers under the direction of the WIA Board. This structure is intended to spread the workload on our volunteers, improve communications between members and the WIA Board, improve services to members, and encourage more people to become involved in the WIA.

WIA Committee Charters

Spectrum Committee

(Regulatory, ACMA, ITU, IARU, Repeaters & Beacons, Standards, Interference & EME, Monitoring Service)

Geoff VK3AFA, Phil VK2ASD (Director), Peter VK3MV, Roger VK2ZRH (Director), Brian VK3MI, Dale VK1DSH, Peter VK3APO, Richard VK2AAH, Gilbert VK1GH, Rob VK1KRM, Noel VK3NH, Doug VK3UM

- Perform all ITU and IARU liaison activities.
- Liaise with, and act as the 1st point of contact for, the ACMA.
- Advise the Board, and enact Board policy in relation to all radio communications regulatory issues and the LCD.
- Represent the WIA to State and Local Government
- Represent the WIA to Standards Australia
- Provide specialist technical advice and coordinate repeater and beacon licence applications and frequency allocation.
- Develop responses to significant and prolonged harmful interference issues affecting amateur radio operations.
- Provide an information resource for EMC/EMR issues.
- Administer the IARU Monitoring Service in Australia
- Provide a technical resource to other committees and the WIA Office.

Technical Advisory sub-Committee (Tech support, Band plans etc.)

John VK3KM, Doug VK3UM, Rex VK7MO, Paul VK5BX, Walter VK6KZ, Barry VK2AAB, Bill VK4XZ, Peter VK3PF, Paul VK2TXT, Peter VK1NPW, John VK1ET, Peter VK3BFG, Eddie VK6ZSE, Peter VK3APO

Administrative Committee

John VK3PZ (Treasurer), Greg VK2SM (Assistant Treasurer), David VK3RU (Secretary), Mal VK3FDSL (Office Manager), Phil VK2ASD (President), Chris VK5CP (Vice President)

- Responsible for the efficient and correct operation of the WIA office.
- Responsible for staffing and workplace safety.
- Provide a specialist administrative resource to the WIA office as required.
- Manage contractual agreements.
- Manage business relationships.
- Ensure compliance with the ACMA Business Rules
- Prepare yearly budgets
- Prepare quarterly financial reports for the Board
- Prepare independently reviewed YE financial reports and balance sheets for circulation to the membership prior to each Annual General Meeting.
- Manage insurances and to be responsible for currency of insurance policies.
- Maintain a complaints register.
- Ensure complaints are handled in accordance with WIA policy and any contractual agreements.

Communications, Marketing, Publications and AGM Committee

Robert VK3DN (Director), Phil VK2ASD (Director), Jim VK3PC, Graham VK4BB (Broadcast), Roger VK2ZRH (Director) Publications sub-Committee (AR Magazine, Callbook etc): Peter VK3PF (Editor AR), Peter VK3PH (Editor Callbook), John VK3PZ (Treasurer), Ernie VK3FM, Peter VK3AZL, Evan VK3ANI, Ewan VK3OW, Bill VK3BR

- Communication with members and the public:
- Communicate with the membership.
- Publicise WIA activities and initiatives.
- Develop strategies and resources for the promotion of Amateur radio to the public.
- Develop strategies and resources for the promotion of WIA membership to the Amateur community.
- Supervise and/or perform promotional activities.
- Co-ordinate the yearly AGM activities

Education Committee

Fred VK3DAC (Director), Owen VK2AEJ, Ron VK2DQ, Mal VK3FDSL (Office Manager)

- In association with the WIA's RTO and affiliated clubs offering training services, develop and administer the WIA's training and assessment systems.
- In association with the Spectrum Strategy Committee, develop and maintain the various licence syllabi and associated question banks.
- In association with the Community Support Committee and the RTO, develop and maintain the Emergency Communications Operator scheme.
- Ensure the confidentiality and security of all personal information, question banks and examination papers.

Radio Activities Committee

Chris VK5CP (Director), Geoff VK3TL

Contests sub-Committee

Alan VK4SN, Denis VK4AE/3ZUX, John VK3KM, Tony VK3TZ, Kevin VK4UH, Colin VK5DK, James Fleming VK4TJF

Awards sub-Committee

Bob VK3SX, Marc VK3OHM, Laurie VK7ZE, Alan VK2CA, Alek VK6APK, David VK3EW, Paul VK5PAS, ARDF sub-Committee: Jack VK3WWW, ARISS sub-Committee: Tony VK5ZA

- All activities associated with actual radio operation, such as: contests, awards, distance records, QSL services, ARISS, AMSAT, ARDF etc.

QSL Card sub-Committee

Geoff VK3TL, Alex VK2ZM, John VK1CJ, Max VK3WT, June VK4SJ, Stephan VK5RZ, Alek VK6APK, John VK7RT, Craig VK8AS

Historical and Archive Committee

Peter VK3RV, WIA Historian, (Leader), Drew VK3XU, Linda VK7QP, Martin VK7GN, Ian VK3IFM, Will VK6UU, David VK3ADW, Jennifer VK3WQ/VK5ANW, Roger VK2ZRH (Director)

- Develop, maintain and preserve the WIA's historical and archive collection
- Encourage access to the collection by WIA members and those seeking historical material for publication.

IT Services

Robert VK3DN (Director), Tim VK3KTB

- Provide an IT resource to other committees and the WIA Board.
- Be responsible for the off-site data back-up of all IT systems information.
- To update and maintain the WIA website as required.
- Advise the Administrative / Financial committee in relation to the MEMNET Cloud Service contract.

Community Service Committee

Fred VK3DAC (Director), Greg VK2SM (Assistant Treasurer), Ewan VK4ERM (Director), Paul VK5PH

- Develop, promote and co-ordinate all WIA community support activities

New Initiatives

Phil VK2ASD (Director), Robert VK3DN (Director), Roger VK2ZRH (Director), David VK3RU (Company Secretary)

- Think-tank ideas and initiatives to advance amateur radio and WIA membership.
- On approval by the Board, run proof of concept trials.

Affiliated Clubs Committee

Ted VK2ARA, Mal VK3FDSL (Office Manager), John VK3PZ (Treasurer), Phil VK2ASD (Director)

- Manage all arrangements between the WIA and WIA Affiliated Clubs
- In cooperation with the Administrative / Financial committee, manage the Club Insurance Scheme
- Encourage stronger relationships and communications flow between the WIA and WIA Affiliated Clubs
- Encourage increasing WIA membership ratios in Affiliated Clubs
- Manage the Club Grants Scheme
- Identify and bring regional Affiliated Club issues to the attention of the WIA Board.



2015 WIA Annual Conference

8, 9 & 10 May 2015, Canberra

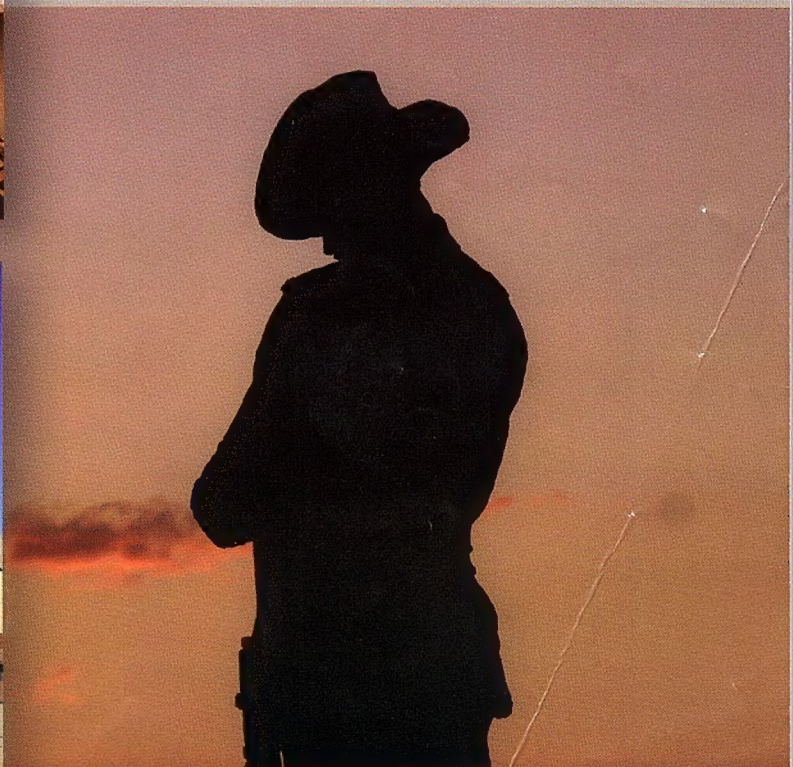
The WIA is pleased to announce details for the **2015 Annual Conference**.

The AGM, Open Forum and Annual Dinner will be held in the *Poseidon Room* at the *Canberra City Hellenic Club* 13 Moore Street Canberra on Saturday 9th May.

The Hellenic Club is located in the Canberra CBD with a wide selection of hotel accommodation and parking available nearby. Please visit the WIA website for full details, prices and registration.

For those arriving in Canberra on Friday evening, there will be an informal dinner and get together held in the *Arcade Room* at *King O'Malleys Hotel* 131 City Walk Canberra.

Sunday will provide an opportunity for all attending the weekend to visit the many local Canberra attractions and to celebrate the ANZAC centenary.



More information and online registration can be found under the 'News And Events' menu on the WIA home page: <http://www.wia.org.au/joinwia/wia/2015agm/>



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